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Advantages and limitations of using EU-SILC for monitoring participation in Early Childhood Education and Care

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1. Introduction

The recent Council Recommendations on Early Childhood Education and Care (ECEC) (European Commission, 2011a) set the tone for increased attention on education and care arrangements for all children within Europe's borders. This new emphasis aims to simultaneously enable parents to "reconcile family and work responsibilities, so boosting employability" and to support children, "not only in their future education but also in their integration into society, generating well-being, and contributing to their employability when they become adults" (p.1).

In 2002 quantitative objectives were specified at the European Council in Barcelona where the countries made a commitment to provide childcare facilities for 33% of children under 3 years of age and 90% of children between 3 and the mandatory school age, with a deadline of 2010. More recently, the benchmark for Europe 2020 is set at 95% rate of participation for children between 4 years old and the starting age for compulsory education.

Locating and using comparative data on the whole ECEC age group is fraught with challenges. Research literature in the field of child development and well-being, which includes participation in early childhood education and care, frequently notes the lack of comparable data on the youngest children. In respect to the role of childcare and organised education in enhancing child well-being and reducing inequality in Europe, one report refers to the "lack of comprehensive and fully comparable evidence on the availability and affordability of formal childcare provision" (European Commission, 2008: 43). The UNICEF Innocenti Research Center, in its Report Card, Number 9, (2010: 27) also notes that "there is a glaring lack of comparable information on the critical years of early childhood" as most data are on school-aged children and not those in early education arrangements.

Nevertheless, this situation appears to be changing as greater focus has been placed on the variety of arrangements offered during this whole period, beginning with early ECEC and the later pre-primary arrangements.

The OECD has been collecting data on ECEC in their country reports for several years in the context of their Starting Strong project. Selected data on participation in early childhood education is now available through the UOE - UNESCO Institute for Statistics/OECD/Eurostat common data collection (UOE, 2011). The latter dataset is the source for monitoring progress on the EU benchmark on participation in early childhood education of children aged 4 to compulsory education. Outside of age of pupils, the only quantitative indicator available in this dataset for measuring ECEC provisions is teacher/pupil ratio. Information on the household (to monitor equity objectives) cannot be achieved using UOE datasets.

EU-SILC - EU Statistics on Income and Living Conditions - offers a unique opportunity to explore participation in ECEC across many countries simultaneously (EUROSTAT: European Commission, 2006). The EU-SILC micro-dataset offers quantitative data on participation in early childhood education of children from birth to compulsory school starting age, according to type of arrangement (e.g., pre-school, centre-based or family day care, out of school care with caregivers or grandparents, etc.) and number of hours enrolled – in all Member States where data is available. Thus, in contrast with UOE data, EU-SILC can provide information on participation rates, but also information on the intensity of the attendance (as measure by number of hours a week) and on the different type of arrangements. In addition, while UOE only reports on children from 3 to compulsory age EU-SILC provides information on child care arrangements from birth to compulsory school age. Also, while UOE has been collecting information for over a decade now and has well established data collection procedures specifically directed to collect information on education, EU-SILC's primary goal is not directed at collecting educational information. Rather, this dataset focuses on indicators and variables on living conditions associated with concepts of well-being within a household context, which facilitate the study of social inequality of educational access.

The data set allows for the study of ECEC participation by household socio-economic characteristics and to create comparative country models. Moreover, the survey captures the disadvantaged through variables measuring income distribution, living conditions and social exclusion at the European level, so organizations such as UNICEF Innocenti Research Centre, mentioned above, as well as academic researchers make use of EU-SILC for cross-national data on child well-being.

This Report

The aim of this report is to review the EU-SILC dataset in terms of how it can be used as a source for indicators and benchmarks and, accordingly, to support EU education policy through relevant research. Specifically, the report explores and presents data derived from EU-SILC on Early Childhood Education and Care, using the 2008 data collection.

The report is the final product of a CRELL project on measuring participation in Early Childhood Education and Care, which has been preceded by several other research efforts: a 2011 conference presentation at the First Lisbon Workshop on Economics and Econometrics of Education, Lisbon (January 7-8) entitled, "The Effects of Child and Family Characteristics on Early Childhood Participation of Migrant versus Native Families" (Araújo, Manca, Villalba and Villalba, 2011); an article prepared for publication, "The Effects of Household Characteristics on Early Childhood Participation of Immigrant Families" (Araújo, Manca, Villalba, and Villalba, submitted for review); and, contributions to Chapter III of the 2010/2011 Commission staff working document *Progress Towards the Common European Objectives in Education and Training: Indicators and Benchmarks* (European Commission 2011b, pp.82-85; 117-118).

2. EU Policy Context

EU-level decisions and agreements on ECEC, whether targeting a particular age group or stage of early education and care, have appeared over the last two

decades. In parallel, many Member States are intensifying their efforts to examine and reform their entire ECEC systems, starting from very different positions in relation to enrolment rates, supply, quality, resources, conception and governance of ECEC.

European ECEC policy initiatives date back to 1992: The issue of access to ECEC services was officially raised in 1992 by the EU in its recommendation on childcare (92/241/EEC) (Council of the European Communities, 1992). While all European countries have adopted some form of policy on pre-school education and care, accessibility is a factor that varies from one country to another.

The Council conclusions on efficiency and equity in education (Council of the European Union 2006) stated that that ECEC can bring the highest rates of return over the lifelong learning cycle, especially for the disadvantaged. In 2008, the Member States agreed on a series of priorities for cooperation at EU level on school policy issues, including how to ensure accessible, high-quality pre-school provision (Council of the European Union 2008). The following year, they adopted the strategic framework for cooperation in education and training that included for the period 2009-2011, "to promote generalized equitable access and reinforce the quality of the provision and teacher support' in pre-primary education" (Council of the European Union 2009). These priorities will form part of Member States' strategies to address Europe 2020, not least because of a widespread belief that ECEC aids in the reduction of early school leaving and promotion of equitable outcomes and social inclusion in education.

A recent Communication (European Commission, 2011a) addresses a two-fold challenge: to provide *access* to child care and education for all, moving towards *universal* provision already available in some Member States, but also to raise the quality of provision through well integrated services and a joint vision of the role of ECEC. According to the Communication, "[t]here is considerable scope for the EU to add value to the process of improving ECEC across Europe", which is the responsibility of each Member State, "by facilitating the identification and exchange of good practice, by encouraging the development of infrastructure and

capacity in ECEC, and by supporting EU-wide research into different aspects of ECEC quality and impact" (p. 3).

Family and Work

EU policies specifically address the expansion of ECEC and facilitation of access as a way to enhance child development and to reconcile family and work. European policies are clearly in tune with research findings supporting the notion that participation in pre-school arrangements reduces educational disadvantages and increases equity. Moreover, current policy initiatives favour an integrated approach between education and care regardless of whether the different Member States have a *unified model* from birth through the start of compulsory education or a *split* model that separates childcare from birth to (approximately) age 2/3 and pre-school from about age 3 to compulsory education (European Commission, 2011a).

ECEC policy is relevant to both the education domain as well as employment, which are two sides of the same coin: early education can benefit child development and school readiness, while it also promotes family lifelong learning (e.g., participation in adult learning programmes) and employment. Formal ECEC arrangements are prioritized as "one main objective of the European employment strategy and refers to guideline 18: to enhance a lifecycle approach to work and to promote reconciliation between work and family life (Eurostat 2008). In 2009, the Expert Group on Gender and Employment, Directorate General for Employment, Social Affairs (EGGE 2009), published a report comparing ECEC in 30 European countries (with a focus on "childcare"), also making use of the EU-SILC dataset. The authors outline the current view on ECEC in their introduction stating that "…the main policy rationale is no longer the reconciliation of work and care, but rather the contribution of childcare services to child development and socioeconomic integration" (*Ibid.* p.7).

Current Indicators and Benchmarks

Statistical and other information regarding the indicators and benchmarks in the area of ECEC is published in the Commission joint staff working document entitled, *Progress Towards the Common European Objectives in Education and Training: Indicators and Benchmarks.* In Chapter III of the 2010/2011 edition (European Commission 2011 b: 82-85, 117-118), information on ECEC is provided on how EU and other countries are performing in the context of the 2020 benchmark on participation of children in formal ECEC programmes, aged 4 years to compulsory primary (usually from 6 or 7 years, but in some cases children start earlier).

With respect to indicators on quality, as mentioned previously, the only available data in the same common UOE dataset pertains to the ratio of pupils to teachers in ISCED 0.

3. Support from Research

Most research investigating child cognitive and social outcomes among children who have attended preschool has traditionally compared this group with children who have not attended preschool. Due to country differences on attendance rates and other criteria, most studies have focused on children aged 3 years to the start of compulsory primary education, who participate in formal arrangements, for a certain number of hours (e.g., part-time versus full-time). Younger age groups are also sometimes featured in research, particularly in countries where entitlement to preschool begins earlier.

With respect to cognitive measures, PISA 2009 results confirm the trend favouring participation that has been observed since PISA 2003 (OECD, 2004; 2010). As stated in the PISA 2003 report (OECD, 2004), "in the majority of countries, students who reported that they attended pre-school education for more than one year show a statistically significant performance advantage than those without pre-school attendance" (p. 243). Even after controlling for the socio-economic background of the students, differences in performance associated with pre-school

participation still remain in countries such as Belgium, Denmark, France, Germany and Hungary (OECD, 2004; 2010). PISA 2009 further indicates that more pronounced performance advantages occur "…in school systems where pre-primary education lasts longer, where there are smaller pupil-teacher ratios at the pre-primary level and where there is higher expenditure per pupil at that level of education (OECED, 2010: 16).

These findings strongly suggest that attending pre-school programs reduces educational disadvantages. Indeed, as Neusche (2009) reports, early childhood participation in these programs may improve the educational attainment of disadvantaged and vulnerable children, which include migrant groups. For example, citing Neusche (2009) UNESCO´s report on the marginalized states that "attending the French pre-primary education system (école maternelle) increases class retention of low-income and immigrant children in primary school by 9% to 17%, with wider reported benefits for literacy and numeracy" (UNESCO, 2010, p. 50). In the United Kingdom, results from the "Effective Pre-school and Primary Education Project" indicates that, at the end of Key Stage 1 (age 7) and also at age 10, children from all SES backgrounds benefit from attending pre-school because they have better attainment in literacy and maths than children with no pre-school experience (Melhuish, Romaniuk, Sammons, Sylva, Siraj-Blatchford & Taggart, 2006).

Similar cognitive gains have been reported in studies of anti-poverty educational programs in developing countries such as Ecuador (Fiszbein et al. 2009). However, studies suggest that disadvantaged children and migrant children in particular participate less in pre-school education, but the reasons for this have not been examined in detail (Kahn and Greenberg, 2010; Nusche, 2009). With respect to immigrant children in the United States, it may be that social and economic background factors explain the lower participation rate, rather than migrant status (Kahn and Greenberg, 2010).

There is also evidence that pre-school education tackles social exclusion. Evaluations of the Head Start pre-school program in the United Stated have

consistently shown that improvements in social and educational outcomes (crime reduction and higher college attendance) of children in economical and social disadvantaged circumstances and of those whose parents have low levels of education (Campbell et al. 2008). Importantly, it appears that the nature of the positive educational outcomes, either social or cognitive or both, may also depend on the quality of the care provided. Waldfogel (2006) found that 3 to 5 year-old children who participated in high quality, *formal*, early childhood education programs were more advanced cognitively when compared to those that stayed home or attended *informal* care. Thus, good-quality provision has the potential to offset socio-economic disadvantages and "to weaken the influence of parental factors on later educational achievement" (UNESCO/ EFA Global Monitoring Report 2010: 50).

Perhaps more importantly, the impact of interventions can depend on differences in the equality of preschool/pre-primary provision as well as on differences inherent to the composition of the student samples. As Gupta and Simonsen (2007: 3) conclude "… because the group of children in the example pre-school is not homogeneous, the effects may not be the same had pre-school been offered to disadvantaged children only".

This reflects the opposition between targeted programs directed at disadvantaged groups and universal ones. Recent policy orientations acknowledge this dichotomy and warn against targeted interventions as they can lead to segregation at later educational levels (Europan Commission 2011a). Indeed, as the PISA study found for the 15-year-old school population (OECD 2010: 84), " There may also be large variations in performance among schools due to the socio-economic and cultural characteristics of the communities that are served or to geographical differences, such as differences between regions, provinces or states in federal systems, or between rural and urban areas". Thus, it seems that education and childcare policies that aim at reducing segregation as a way to ensure educational equity will remain a priority.

4. Defining and characterising ECEC

With this in mind, we can introduce a conceptual framework to be used to sort the variables available in EU-SILC and to interpret and organize statistical information for our presentation of descriptive data in the sections below.

Classifying ECEC arrangements

The availability of surveys such as EU-SILC allows for monitoring quantitative policy objectives and for measuring some differences between households with small children in formal and other types of ECEC, according to age of the child and number of hours in attendance per week. Due to the variety of arrangements and different approaches to early education across countries, in addition to concepts used in the field of ECEC, it is a challenge to match available data with appropriate classifications based in research and practice. In the case of EU-SILC, the three types of care included in EU-SILC are similar to the conceptualization of a "golden triangle" of ECEC as proposed by Van Oudenhoven and Jualla (2010) and recently presented in a conference sponsored by the European Alliance for Families. In this framework, besides the conventional formal/informal dichotomy a third dimension defined as *non-formal* is considered resulting in the following ECEC breakdown[1]:

- **FORMAL CARE**: Organized structure with qualified staff, at a day-care centre or at organized family day-care (relates to EU-SILC variables RL010 and RL040)
- **NON-FORMAL CARE:** No organized structure and no notion of qualified staff, parents arrange for and pay the services directly to the nanny or care-giver (relates to EU-SILC variable RL050)
- **INFORMAL CARE:** Unpaid care provided by family and friends (relates to EU-SILC variable RL060)

[1] In this report "formal" ECEC refers to the setting and organizational aspect of the arrangement (e.g., centre-based care) and is not used to explain the teaching-learning style or method.

Although this categorization is helpful in understanding the different types of ECEC provision, it is not universally accepted. Difficulties arise when attempting to standardize ECEC terminology and conceptions of early education and care more generally (e.g., purposes, roles, pedagogy, staff training, etc.). Indeed, "There are many competing, intersecting and overlapping arguments that drive the development of ECEC policy; not all of them are compatible" (NESSE 2009: 5). It is within this context of diverse starting points, in both the rationale behind ECEC in individual countries as well as the existing arrangements available from birth up to primary schooling, that European-level policy initiatives are developed. Participation in ECEC is dependent upon a number of factors external to the ECEC systems/arrangements, in addition to household characteristics such as socioeconomic background, and these are set within country contexts that are characterized by a set of cultural, social and demographic features. ECEC system differences themselves can create problems for measurement of participation and can also help explain the statistics on ECEC.

Reflecting on the literature on ECEC, some of which are cited in this report, certain tangible features of the ECEC systems (0 to compulsory education start) are normally in focus. By default, other useful information on the systems can be inferred from this literature while information gaps appear, especially in split systems where different authorities oversee different phases in the ECEC system or where private facilities operate with little governmental intervention, or where the arrangements available to children/parents are fragmented and there is minimal communication/coordination between the parts/facilities.

The following section thus looks into some these themes appearing in the selected ECEC cross-comparative literature/reports, which have implications for the measurement of participation and understanding of access-related issues in Early Childhood Education and Care in European countries. More importantly, these themes bring into focus the *context* for early education statistics presented in this report. Six main interrelated themes are discussed (terminology, structure and organization, ISCED 0 (1997), entitlement, private sector arrangements and quality) which are then used to structure the qualitative description with examples

from European countries. An attempt is also made to summarize qualitative information on selected countries.

Characterising ECEC

The first challenge is in relation to standardization or classification of system levels using particular terminology. What is pre-primary/preschool/kindergarten/nursery school in the different national contexts? In some cases, the terms in the national language are not equivalent to the terminology in English. For example, Swedish preschools or *forskola* or *dagis* have been translated as "educare" centres as they are based upon a comprehensive educational philosophy combining care and education from one year up to the start of the "preschool class", which directly precedes elementary schooling. In other countries, such as Italy, the "asilo nido" accept children from 0 to 3, and "scuola materna" from 3 to the starting of compulsory schooling. The exact correspondence to English (or other language) is not straightforward since the different arrangements might share some characteristics, but not all. According to an OECD report (OECD 2006) for example, translations for ECEC at later stages (although it is not always limited to age 3 to compulsory age) include preschool, kindergarten and nursery care, and in some cases preschool or reception classes combined with primary education/school. This reflects variations in ECEC forms.

This highlights the complexity involved in determining what type of education and care is registered in the data set, and the difficulties in providing comparable statistics.

System Structure and Organization

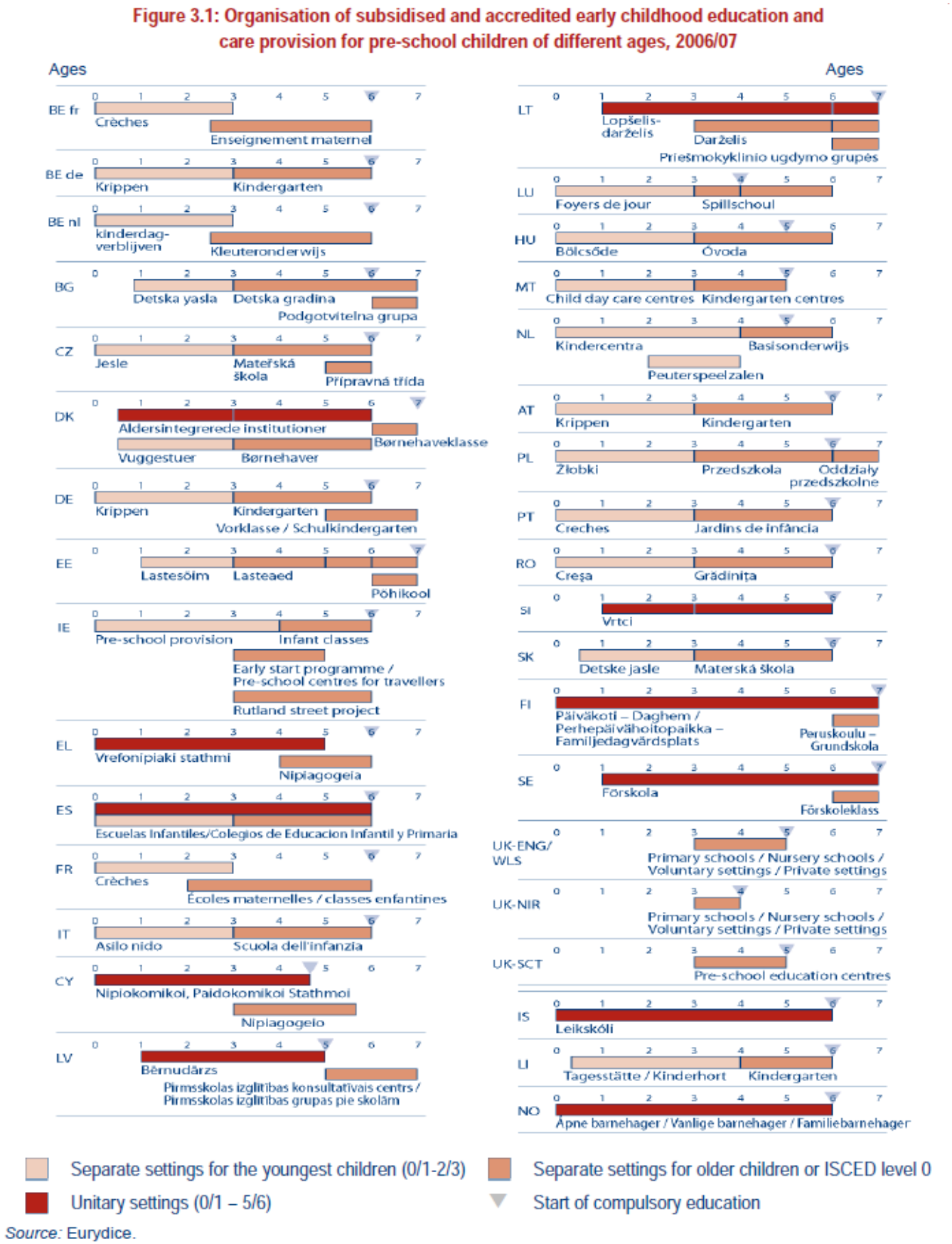
The overall structure and organization of the ECEC systems are sometimes difficult to illustrate at national level, especially where organization of schools can vary according to geographical location. This is the case in many countries having a decentralized ECEC system and where different authorities are responsible for public and private preschools, and for preschool students of different ages.

In order to have a full picture of how the system or system parts are organized in one country, a country mapping would have to be carried out, where the structure of each relevant sub-national or regional part would be represented. This would aid in explaining differences in participation rates according to the local or regional context. Such a mapping is, however, a significant undertaking. Eurydice makes a substantial attempt to illustrate the structure of the ECEC system or organization of different types of arrangements that may be available in a country. Figure 1 (show below) of their 2009 report on ECEC shows the organization of only *subsidized* and *accredited* early child education and care provision for children from birth to 7 years of age (i.e., the entire ECEC age range), by which time most children in most European countries are engaged in compulsory primary education. There are, nevertheless, other arrangements not represented in the figure. Analysis with EU-SILC can provide a picture of other types of care, since as indicated above, in the EU-SILC, there is a variable (RL060) that refers to informal education and care, that is to say arrangements involving family members, the parents or friends, taking care of the children.

There is a theoretical division between unitary or comprehensive settings and those that are separate/split, made clear in the Eurydice figure, using information from 2006/07. The former "unitary system" normally offers children education and care from about age one (or before) to the start of compulsory education. This reflects the idea that these countries may accord the same importance to "education, socialization and care throughout the entire period of the unitary system" (Eurydice 2009). In these systems it is easier to study ECEC as financing, curricula and governance normally relate to all children from the youngest to those starting compulsory primary schooling. Information on these systems is normally more readily available, which facilitates monitoring of access and participation.

Part of the difficulty in obtaining precise details on access to ECEC in most other countries is that ECEC is still sub-divided into services for children under two or three years on the one hand, and those that are above three to compulsory school age (a separated or "split system"), whereby governance and financing may also be separate. The challenge is that in cross-comparative reports, although major

differences can exist between 0-3 ECEC and 3-6/7 ECEC, these two stages or parts of the ECEC system are often discussed together under the rubric of ECEC. In comparison, the unitary model allows for comprehension of early education and care systems that spans the entire period from birth to primary schooling.



Source: Eurydice.

Figure 1: Organization of subsidized and accredited early childhood education and care provision for pre-school children of different ages (2006/2007).

Source: Eurydice (2009)

More recently in some other countries, unitary models and the split arrangements co-exist, such as in Cyprus, Greece, Lithuania, Denmark and Spain.

ISCED 0 ECEC – Pre-primary education

ISCED 0 education is in focus in EU education and employment policy, since it is considered the stage of organized education directly preceding primary education. It is not always clear, however, how ISCED 0 is defined in a country, namely the criteria used to designate a type of ECEC as ISCED 0. The EU-SILC for 2008 (that is used in this report) uses the ISCED97 classification. According to the 1997 definition of ISCED 0 the main criteria should normally include (but it not necessarily limited to) educational content of programme, teacher qualifications or certification, the setting for learning and age of the child, but some flexibility is expected in interpreting this definition. According to Figure 1 above, which is based on country self- reporting, ISCED 0 education can begin anywhere in the early education and care range, depending on the country. Many of these drawbacks in definitions and terminology and confusions on classifications will be overcome with the use of the new ISCED classification approved in 2011. The new ISCED 2011 (UNESCO 2011) has defined in a more extensive way a set of criteria for considering early childhood education as ISCED 0. Once this classification is in use ECEC statistics should follow a more coherent approach and this will benefit the comparative capacity of the data collected in EU-SILC.

Legal entitlement and subsidies

Two main features of the educational arrangements that are prominent in distinguishing ECEC are legal entitlement and subsidies. Legal entitlements refer to obliging the country to create a legal framework for ensuring access to education and care, often implying that these arrangements are monitored according to given standard. Accompanying subsidies refers to education (whether public or private) being either free of charge or fees for families are nominal and do not absorb a high proportion of the household income. Legal entitlement also implies that sufficient places are made available and that quality is more likely to be monitored

and assured. Guaranteed access to ECEC and public subsidies are intertwined, especially for low-income families or those who are otherwise disadvantaged due to language differences or other barriers (location), etc., In other words, legal entitlement (is it offered, granted-guaranteed) to a certain number of hours of ECEC from a specific age is related to the cost of ECEC for users or to what extent ECEC is subsidized by the government. Thus, if children/parents in a country are guaranteed access to ECEC, for example from age 1, and are legally entitled to this education and care, the state has to subsidize this provision in the same way as for compulsory schooling.

Eurydice (2009) reviews the situation regarding financing ECEC in Europe. In general, the public sector in European countries finances educational expenditure for ISCED 0 education by assuming direct responsibility for the current and capital expenditure of schools (direct public financing of schools) or by offering financial support to pupils/students and their families (public-sector grants and loans) and by subsidising the education or training activities of the private business sector or non-profit organisations (transfers to households and firms).

In addition, direct public funding for educational institutions and transfers to households and firms are included in total public educational expenditure. As such, the costs to the user for public or publicly financed education and care at this level, particularly in split systems, are normally lower the closer a child gets to the age of entry to compulsory education. “Without exception, every country in Europe has set up some form of publicly subsidised and accredited early childhood education and care for children below the age of compulsory schooling. The differences lie in the organisational forms, the competent authorities and the age at which children may access this type of provision.” (Eurydice 2009: 75).

Since every EU country offers some form of subsidised and accredited ECEC, motivated by both child development benefits and parental employment, the question is at what point the government is obliged to offer this provision.

A report by Urban (2009), writing for Education International, provides some useful information on entitlements and cost issues related to access to ECEC

provisions in European countries. According to the report, throughout Europe, the concept of 'universal access' is generally accepted for children between the age of three and compulsory school age. Even if universal access is offered at a later stage, most European countries offer at least two years of free, publicly-funded early childhood provision. It is not always the case, however, that this education is funded on a full-time.

Urban (2009) notes that several countries had already established legal entitlements of early education by the late 1980s and the 1990s. In Belgium, France, Italy and the Netherlands, for example, national legislation entitles children to access to free pre-school services from the age of 30 months, 36 months and four years, respectively. Urban does not specify, however, how many hours are free and how this corresponds to parental working hours.

In the case of the Netherlands children can begin primary school at four years, while in some parts of Italy, which also offers free access to public education by age four, the arrangement is still considered pre-primary until the age of 6. In addition, since public provisions are limited in most of the country for pre-compulsory education, private fee-based ECEC plays a major role when public services are not available. In the majority of countries, however, "free education for older children (usually from the age of 3) is guaranteed in school settings" (Eurydice 2009: 85). The Netherlands and Ireland are exceptions, however, as the statutory right to publicly funded ECEC is not guaranteed from the age of three (OECD, 2006: 77). This can also reflect a downward extension of compulsory schooling to encompass one or even two years of pre-primary education. This is the case in Greece, Cyprus and Poland, for example." (Eurydice 2009: 85). Other countries, such as Denmark, Hungary, Iceland, Norway and Sweden, are obliged to offer places (mostly formal arrangements even if in a variety of settings) at a much earlier point (usually around 1 year of age).

This reflects variations in ECEC forms of provision. In Cyprus, Greece, Ireland and the UK, for example, children can, do or must join ISCED 1 prior to age 6 or have a compulsory or voluntary preparatory preschool class within the primary school.

Thus, the effective length of voluntary preschool education is likely to be shorter in some countries than in others.

Children between the ages of 3 and 4 in Ireland and the UK are entitled to only 12.5 hours of free preschool (OECD 2006) and they are not entitled to a full-time place at this age, whereas, for example, in Sweden, Denmark, Finland and Estonia, all children are guaranteed a full-time place at preschool/kindergarten, etc., even prior to age 3. On the other hand, in the latter countries ECEC is affordable for families (i.e., heavily subsidized) but not free of charge.

Another issue concerns whether or not children are entitled to full-time or to some hours of (non-compulsory) ECEC according to the employment status of the parents as users. For example, in some countries unemployed parents or parents (one parent per couple) who opt not to work are not guaranteed a place for their child. In this way, it is not the child's social development or rights which are in focus, but rather the parent's employment status. To encourage both female employment and child development, some countries have engaged in policy reforms aiming to facilitate the right to ECEC. In Sweden, for example, parents were in 1991 "given the right to have their child in pre-school when studying or working. This reform was in 2001 extended to include children whose parents were unemployed and in 2002 further extended to include those on parental leave" (Pramling Samuelsson and Sheridan 2004:4).

Involvement and need for private sector arrangements

Access related factors can also be approached through assessing the prevalence of public versus private arrangements since this indirectly relates to financing and other accessibility obstacles. The issue of ownership and level of provision may shed light on the priority given to ECEC. In turn, this relates to equity and access since a weaker governmental role in ECEC (or lack of subsidies) can lead to socioeconomic divisions between those who can afford or otherwise have access to an arrangement, and those families who do not or cannot participate. There is a variety of public and private alternatives in ECEC within European countries although the line between the two systems is not always clear. For example,

funding programmes for employers or tax measures for parents imply public support for a private market (EGGE 2009: 24), blurring the line between public and private sector involvement in ECEC.

Other private arrangements can include professional child-minders or other professionals, who may or may not be registered or supported by a structure, or who may have advanced credentials and training and take children in groups or individually (what is referred to here as non-formal care). Unpaid care given by grandparents or other familiar individuals may also be considered a part of the ECEC provisions, particularly from the perspective of supporting parental employment (referred as informal learning).

Quality and remaining access-related issues

As early education systems expand, more attention is devoted to the parallel issue of quality. This point was addressed earlier in the context of EU policy initiatives, and statistics on one indicator – pupil/teacher ratio – was provided to illustrate how quality differs among countries. There are, however, many potentially important aspects of quality that have not often been measured across EU countries, for the purposes of monitoring the qualitative aspects of ECEC, which are essential to determine if certain standards are being met in protecting the best interests of the children in ECEC arrangements.

In fact, researchers point out that poor ECEC may do more harm than good (NESSE 2009) as smaller children are highly dependent on the adults caring for them as well as the surrounding environment. Quality criteria include staff/child ratio as well as age appropriate curriculum, books and other educational materials, play facilities, social stimulation, health, nutrition and sanitation facilities (WCECCE Concept paper, 2010). At the EU level, curricular appropriateness, staff competences and governance policies have come to the forefront of discussions on how to provide young children with the best educational start (European Commission 2011a). Considering pedagogical competences, for instance, the quality of adult-child verbal interactions in the 3 to compulsory age group is unequivocally linked to subsequent reading literacy attainment (Melhuish,

Romaniuk, Sammons, Sylva, Siraj-Blatchford & Taggart, 2006; Sénéchal, 2006). However, different interventions can target the quality of verbal interactions only in the *formal* setting or also in the home of the children by training parents on how to interact verbally with their children.

Quality assurance mechanisms are linked to the *type* of Early Childhood Education and Care provided (ECEC). While *formal* ECEC services can be defined as centre-based, including school and organized family care, *informal* care includes care provided by private family day carers, nannies, relatives and friends (UNESCO, 2010). Because *formal* childcare services are framed by statutory laws, by regulations on teacher education and certification, by official curricula and by external monitoring from central or local governing authorities quality assurance can be implemented (van Oudenhoven & Jualla, 2010). External monitoring usually includes, among other aspects, regulations on staff/child ratios and on the physical surroundings (space available for the children, number of toilets, etc). In contrast, the quality of *informal* care provided by non-qualified staff in unregulated settings is by nature more difficult to assure (Belsky, 2008).

Although in this report quality of ECEC is not measured, as there is no explicit data available in our dataset (EU-SILC) to quantify any content indicators on quality, the topic is worth discussing due to its policy emphasis and to introduce the context surrounding participation in ECEC. On the other hand, we outline the research and policy background regarding views on the forms of ECEC – formal, non-formal and informal, which are referred to in policy and research on ECEC. Such forms or types of ECEC are linked to discussions on quality, as discussed above, although we know little about the actual content or standard of the teaching, learning and care provided.

5. Available Data on ECEC in EU-SILC (2008)

The dataset discussed in this report, the EU Statistics on Income and Living Conditions, contains information obtained through random sampling from private households located in the territory of the Member States at the time of data collection. The cross-sectional micro-dataset is a source for comparative statistics

on income and social inclusion at the European level. Among other information, EU SILC provides micro-data on participation in early childhood education and care of children from birth onwards. The variables related to ECEC are labeled with the prefix RL. In order to obtain reliable estimations, it is necessary to use a different weighting scheme than the one used when calculating other statistics from EU-SILC and this might pose problems in terms of relating EU-SILC adult variables to children's. EU-SILC provides weights for each individual that has been selected in the survey, however, for children under 16, the weight is adjusted to account for age distribution that is not considered otherwise.[2]

The variables on early education and care are collected by asking the respondent to report on the number of hours that the child attends education and care. There are 5 variables of interest in this survey. RL010 is regarded as the "pre-school or equivalent", RL020 records the number of hours in "compulsory" schooling, RL030 captures arrangements at centre-based services (pre- or primary) outside school hours. RL040 refers to all arrangements controlled by a structure (private or public). It concerns children that are too young to be in compulsory education or primary school as well as those in compulsory education who attend centre-based care when schools are closed. RL050 collects info on direct arrangements between the career and the parents in the absence of or without a structure that controls these arrangements. Finally, RL060 refers to unpaid care by family or individuals other than parents. Box 1 below shows the main definitions as extracted from the EU-SILC guide. RL010 to RL040 can be regarded as formal education, RL050 as non-formal and RL060 as informal education as defined in the "golden triangle"

[2] " In the EU-SILC, in addition to the four usual types of units involved which are "household", "household member", "household member 16+" and "selected respondent", "child" is another type of unit to be considered for childcare data. This variable is not defined by any regulation. For the cross-sectional survey, the personal cross-sectional weight (applicable to all household members, of all ages - target variable RB050) may be used for the childcare data. However, the calculation of this weight probably does not take into account external control age-distributions for children aged up to 12. In order to ensure a correct distribution for children by age, it might be better to calculate specific children cross-sectional weights. The proposal IS NOT to scale and calculate new weights for children taking into account non response, household and individual variables, region, children ages… The proposal is to adjust the distribution of children for each year of age. This involves the adjustment of personal cross-sectional weights so as to make the distribution, according to age characteristics, of the children covered in the sample agree with the same information from some more reliable external source (age distribution of children aged 0 to 12 in private households)." (Eurostat, 2008, p. 156-157)

(Van Oudenhoven and Jualla, 2010). RL020 refers to compulsory education, while RL030 reports the hours a child spends after or before school in a day-care.

Box 1: Definitions of the variables in EU-SILC

RL010: Education at pre-school

Pre-school or equivalent (e.g. kindergarten, nursery school …). The educational classification to be used is ISCED Level 0. Special pre-schools or equivalents for children who have special needs (handicapped, …) shall be included as far as they are considered as pre-school (level 0). If they are not, they shall not be reported here (reported for example in RL040 for day-care centre).

RL020: Education at compulsory school

"Compulsory" school shall be understood as a mean to separate school from pre-school, but all the school hours have to be included : primary and eventually secondary schools shall be included (children up to 12 years old at the day of interview).

[…] (RL010>0 and RL020>0) is not possible; a positive number of hours both at pre-school and at school is incompatible. […]

RL030: Child care at centre-based services

[…] Centre-based services outside (pre-)school hours : should be reported the hours of care only before and after school. For example, a school-going child who doesn't go to school on Wednesday and who is cared for by a day-care centre: these hours of care shall be reported in

RL040. The services can be or not at the school place.

Cultural and sportive activities outside school (here after school hours) such as club, music lessons … shall not be included as far as they are not used as a childcare service but rather for the child leisure. […]

RL040: Child care at day-care centre

In RL040 are included all kind of care organised/controlled by a structure (public, private). This means that the parents and the carer are not the only persons involved in the care, that there are no direct arrangements between the carer and the parents in the sense that there is an organised structure between them (which is often the carer's employers). For example, a centred-base day care, organised family day care, a crèche, … The place of the care can be a centre or the carer's home (e.g. organised family care). […]

RL050: Child care by a professional child-minder at child's home or at child-minder's home

In RL050 there are direct arrangements between the carer and the parents; there are no structure which organises or controls the care. Parents are often employers, pay directly the carer, but furthermore there are no control of the qualification of the childminder by an organised structure. "Professional" childminder shall be understood as a person for whom looking after the child represents a job of work or paid activity. The term "professional" does not content a notion of qualification or of quality of the care. Baby sitters and "au pair" are also included here. The care can be at the child's home or at the childminder's home. If a neighbour or a friend is the carer and if he is paid for that, then the number of hours of care shall be reported in RL050.

EU-SILC Variables in Context

Distinctions in the types of care provision can be challenging to interpret and nuances in definitions and methodology can result in inaccurate enrolment estimates. Indeed, although the latest OECD family database document on enrolment in childcare and pre-schools mentions that the EU-SILC survey was used as a source of data collection it presents a potential methodological problem. It states that "The enrolment rates for 0-2 year olds concern formal childcare arrangements such as group care in childcare centres, registered childminders based in their own home looking after one or more children and care provided by a career at the home of the child (OECD 2011)."

Whereas registered childminders equate with the qualified childminders in the EU-SILC variable RL040 and thus fit within the "formal care" category, care provided by a career at the home of the child matches the definition for the RL050 variable, which corresponds to either informal care, as per the UNESCO classification, or to non-formal care, according to the "golden triangle" framework. Either way, it cannot be considered formal care and so if enrolment rates reflected in the RL050 variable in EU-SILC were considered formal care this presents a potential methodological problem.

The recent study by DG Employment, Social Affairs and Equal Opportunities (EGGE 2009) on the provision of 'childcare services' in 30 European countries, makes the distinction between *formal* types of care and "other" thus avoiding the problems discussed above. Most likely due to the report's main focus on non-parental *care* of children as it is related to enabling parental employment, the analysis considers only that children are in care (formal, non-formal or informal) whether or not it is education oriented.

In their analysis of childcare arrangements EGG reports on RL040, but also on RL010 (education at pre-school at ISCED 0). This is perhaps because these two variables may capture the division between ECEC for the younger and the oldest children (0-2 and 3 to compulsory education) respectively but many countries report that children under 3 attend ISCED 0 preschools (RL010). As mentioned

previously, this is related to the structure of the educational system of each country, with some countries following a unified model from birth to compulsory age and others following a differentiated model.

Regarding education and care for children from approximately age three to the start of compulsory education, as shown earlier in the section detailing the relevant EU-SILC variables measuring ECEC participation, EU-SILC follows the International Standard Classification of Education (ISCED 1997) to define variable RL010: Education at preschool and states that it refers to "Pre-school or equivalent (e.g. kindergarten, nursery school…) the educational classification to be used is ISCED Level 0. Special pre-schools or equivalents for children who have special needs (handicapped,...) shall be included as far as they are considered as pre-school (level 0) (EU-SILC, 2008). The UNESCO document supporting the ISCED 1997 classification system for ISCED 0 does mention age three as an important point between the stage defining the earliest cycle of education and care to the later pre-primary stage leading up to primary schooling. The document also states that what matters most is the organization and content of what is offered and that age three is stipulated as the time at which ISCED 0 education normally (but not always) begins. It should be noted however, that ISCED 1997 has been updated and ISCED 2011 includes a major revision of ISCED level 0. Nevertheless, according to country information, some ISCED 0 programmes begin earlier than age 3, as can be seen in Figure 1.

6. ECEC Participation in the EU Countries: Selected Descriptive Data in EU-SILC

This section shows the descriptive statistics of the variables presented above. It provides this level of detail in order to provide insight into the differences between countries and in order to illustrate the difficulties in classifying and reporting on ECEC. The following graphs provide an overview of the variables in the data set, comparing ages 0 to 3 and 4 to compulsory age obtained using EU-SILC.

The first figure shows the data from EU-SILC for children 4 years old to compulsory compared to the Eurostat data, obtained using the UOE. The data shown in EU-SILC refers to the percentage of children attending RL010 or RL040 (or both).

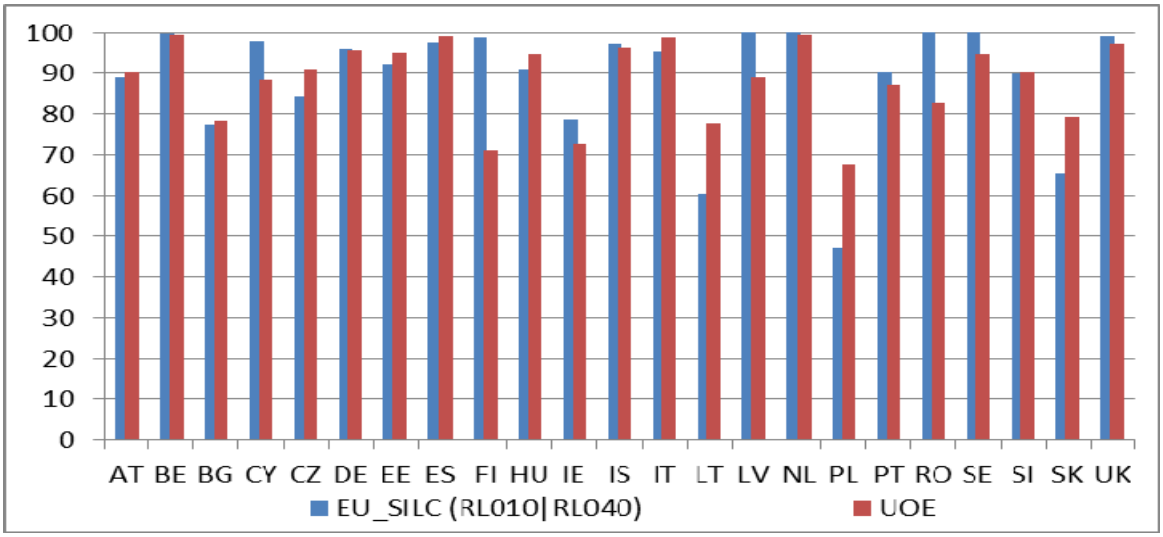


Figure 2: Percentage of participation in formal education and care, children 4 years old to compulsory, 2008

Half of the countries have slightly higher participation percentages in EU-SILC and the other half registers higher participation rates in UOE. Nevertheless, in general, the data are relatively similar. The discrepancies are lower than 5 percentage points in 13 countries, while in the remaining countries the differences range from 5.4 to 27.7 percentage points. Figure 3 illustrates these differences by including a negative bar that indicates a higher EU-SILC ECEC participation rate compared to that of the UOE. The positive bars indicate the opposite relationship; higher percentages for UOE when compared to EU-SILC. If one takes UOE as the reference, EU-SILC substantially overestimates (the percentage is higher) in CY, FI, IE, LV, RO; while in CZ, LT, PL and SK EU-SILC underestimates. These differences might be explained by the number of missing values and the sample sizes in the countries. In the next section we will explore these aspects.

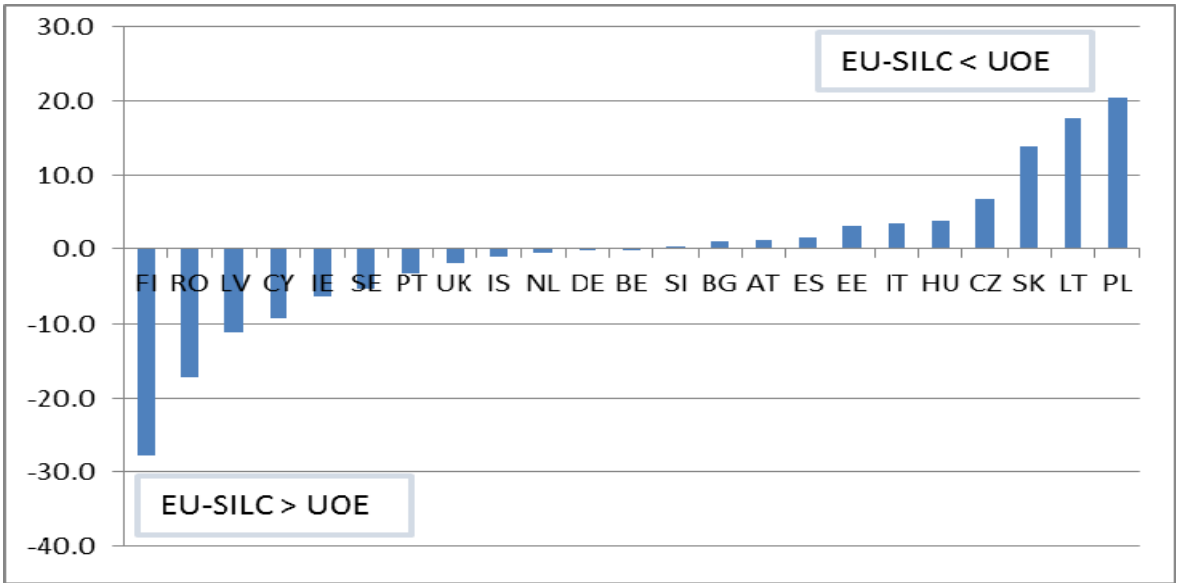


Figure 3: Percentage point difference between the EU-SILC and UOE participation data

Missing values and number of observations

In order to better understand the figures from EU-SILC, it is important to provide some information on how the data was calculated from the database. The percentages presented are the "valid" percentages, that is to say, the number of children that report attending at least 1 hour of participation without accounting for the missing values. This differs from the approach Eurostat adopts in respect to its figures on early childhood education participation based on EU-SILC data, whereby missing values are computed using household characteristics. Due to this reason, some of the figures that follow might differ from the respective Eurostat tables. It is important to note, that the intention of this report is to explore the potential uses of EU-SILC for measuring participation in diverse ECEC arrangements, and thus, the actual levels are only indicative at this point. Missing values, in this report, thus represent the children for whom there is no recorded information on the variable (e.g. the respondent did not know or did not answer the question). Annex 2 present the tables with total number of observations.

Figure 4 shows the absolute values (before weighting factor is applied[3]) from age 4 to compulsory age children and the missing values associated with each of the

[3] EU-SILC uses a weighting variable specific for the calculation of variables related to early childhood (RL070)

variables under study. That is to say, the first corresponds to the total number of respondents that the survey actually had in each of the questions. The left axis represents the actual number of children without applying the weighting factor. The blue bars show the number of actual children that recorded some valid value in the variables, while the red part shows the children for whom we do not have information. The axis on the left refers to the percentage of missing values in each variable. This is important to interpret the rest of the figures in the report because if the numbers are low and the percentage of missing values is high, the figure is likely to be less reliable than if there are fewer missing values and higher total numbers. For example, in RO, there is a substantial amount of missing values, which makes the figures for this country unreliable. Also, as was seen previously in FI, there were important differences between EU-SILC and UOE and this may be due to Finland's high number of missing values.

It is interesting to note that there are more missing values in the variable RL010 – Education at pre-school, than in the other variables, at least for the 4 to compulsory age group. RL020 has a lot of missing values, and because of this it was not presented. RL020 refers to compulsory age education and in some countries there are number of pre-compulsory aged participants, such as in the UK and Germany. Thus, it is likely that some of the figures presented below for those countries have a slight bias towards under representation, since some children participating in RL020 (compulsory school) will not be counted in many of the figures.

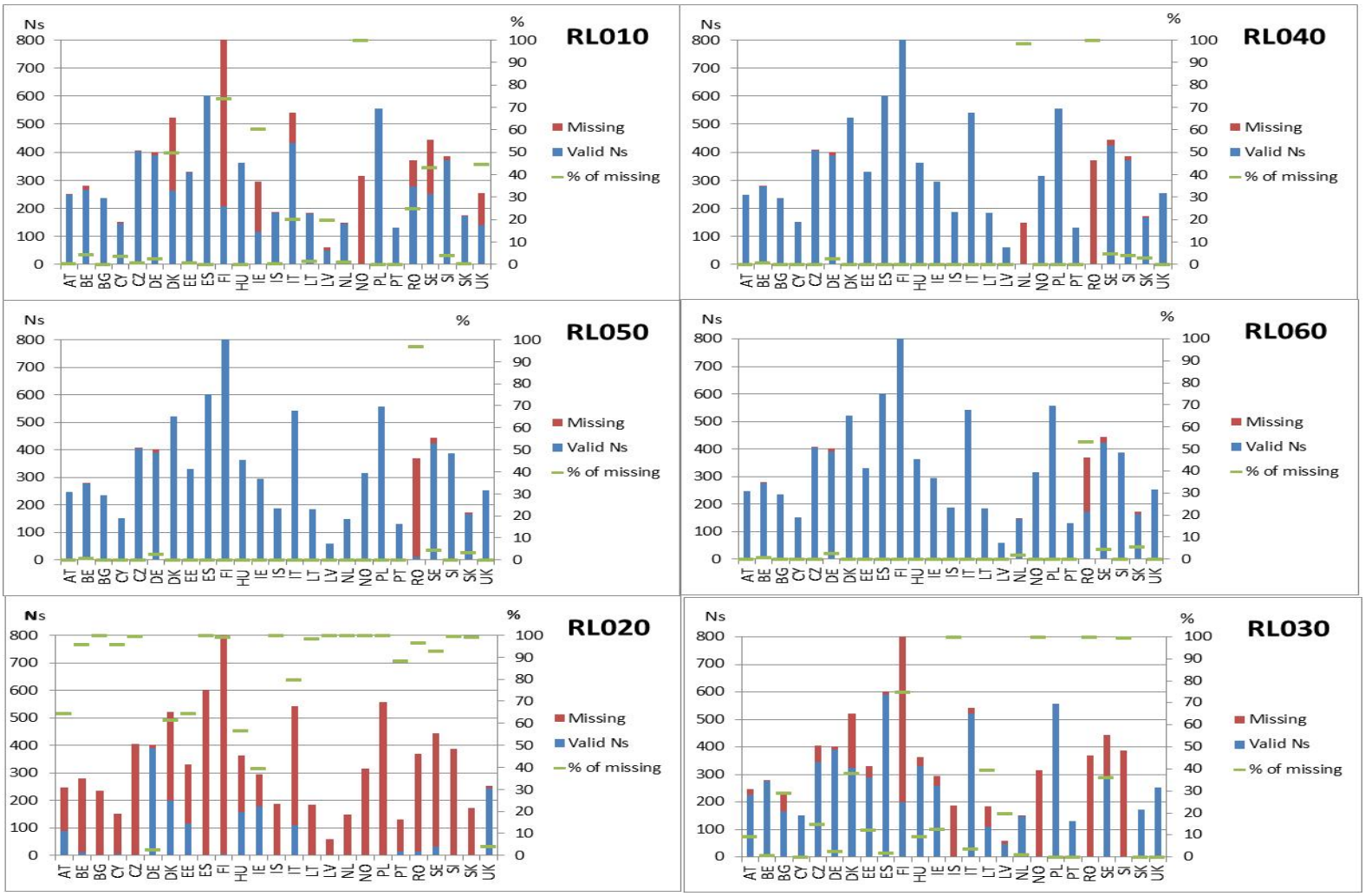


Figure 4: Total sample size, missing values and percentage of missing values in EU-SILC for 4 to compulsory school age by type of education and care

Figure 5 shows similar information for ages zero to 3. The variables RL020 and RL030, education at compulsory school and centre-based child care are rather unreliable, while RL010 also presents a significant number of missing values.

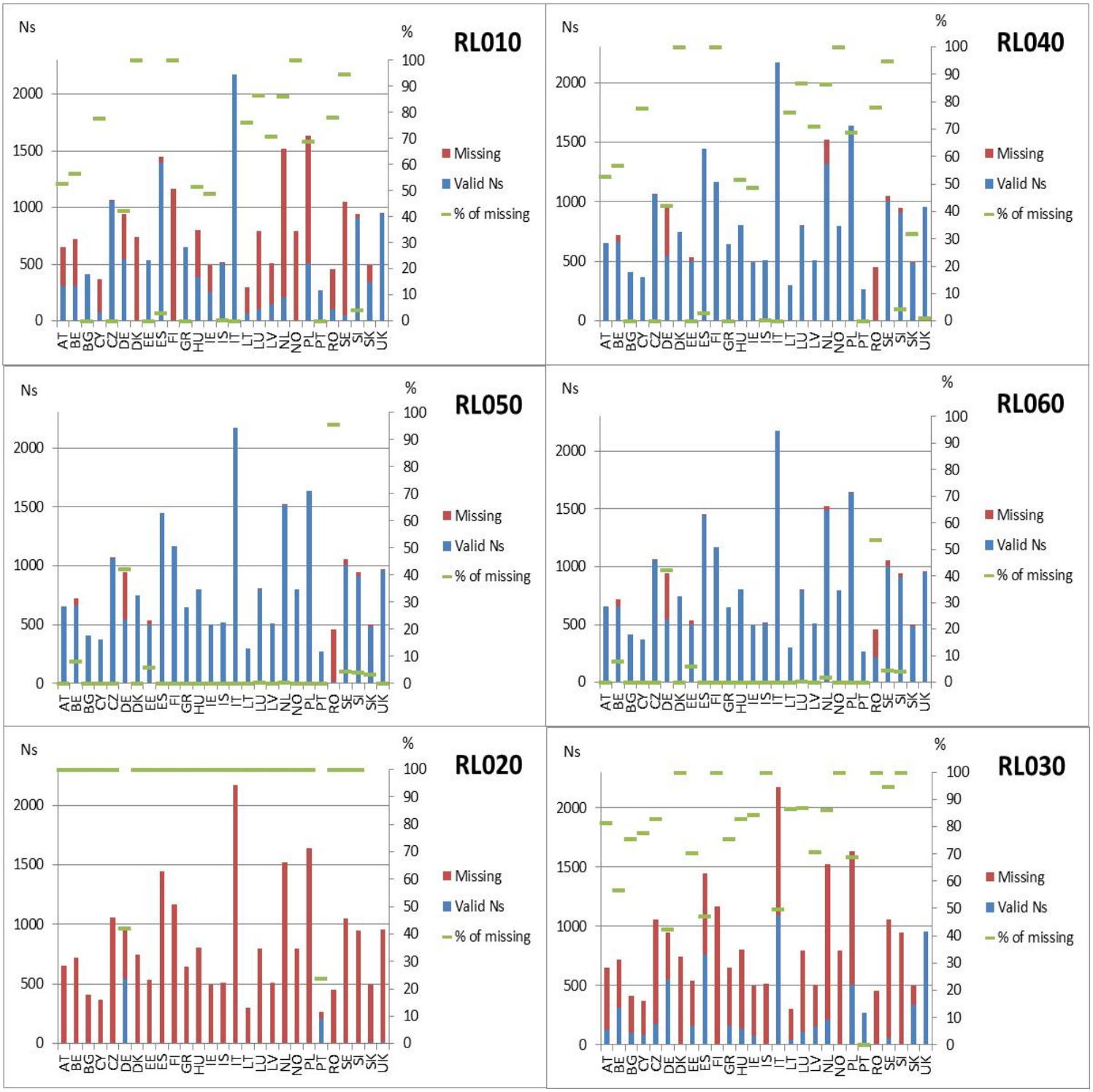


Figure 5: Total sample size, missing values and percentage of missing values in EU-SILC for 0 to 3 years old by type of education and care

Participation in formal education and care

Figure 6 shows the percentage of children that report at least one hour of participation in "Education at pre-school" (RL010). This is the most common type

of education and care attended in Europe in almost all countries. This is the case for both children from four to compulsory age and children under three. Sweden, Romania, the Netherlands and Latvia present universal participation (100%) for older children. These four countries also have high participation (close to 100%) for the early years. Countries with high participation in the older age group tend to have higher participation in the younger cohort as well, with the exception of the UK. Lithuania is the only country where younger children participate more than older ones.

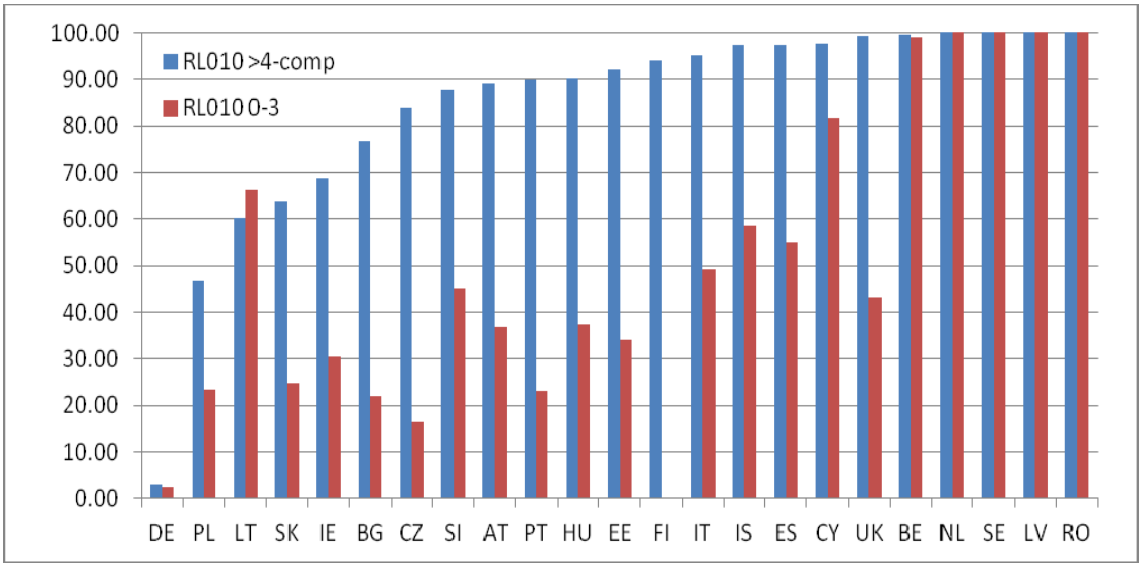


Figure 6: Percentage of children participating in formal ECEC by age group (RL010, ISCED 0)

The lowest level of participation in this specific type of care (RL010) occurs in Poland (46%) and in Germany, where only 3 % of 4 year- olds or older and 2% of the zero to three age group is reported as attending RL010.

In the case of Germany, most children (93%) are reported as attending "Child care at day-care centre" (RL040) instead of "Education at pre-school" (RL010) (see figure 7). This can be due to the particular conception of organised ECEC prevalent in the country. Most of the other countries present lower levels of participation in this type of care; only Finland, the Netherlands and Sweden present percentages higher than 40%, the rest are nearly zero or less than 10%. For the younger cohort, this type of arrangement is slightly more common.

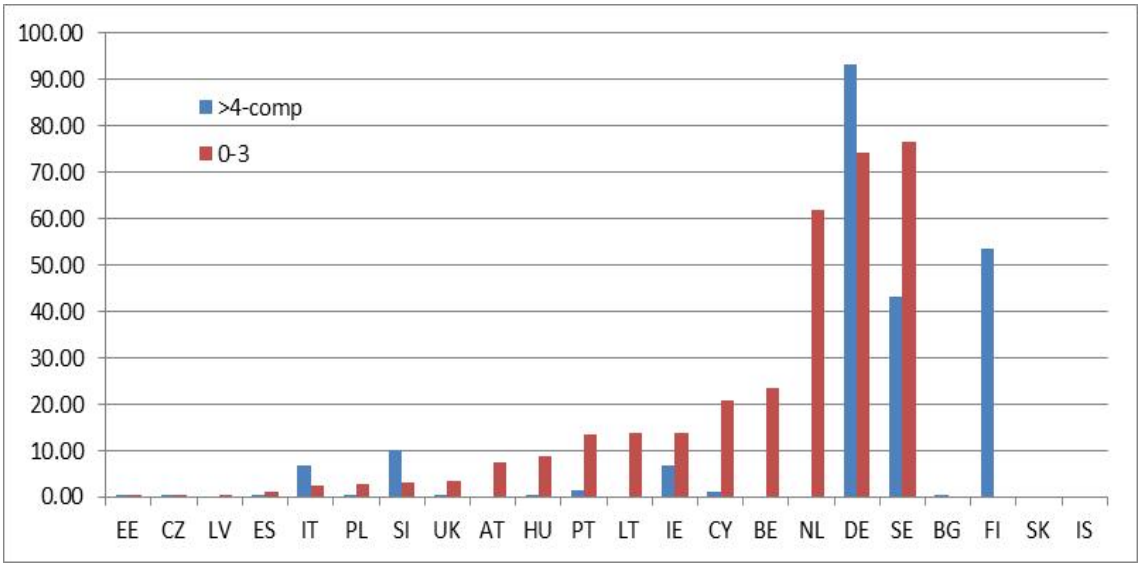


Figure 7: Percentage of participation in child care at day-care centre (RL040)

In addition, some countries report the younger zero to three age group as attending "Child care at centre-based services"(RL030 - see figure 8). In Hungary and Slovenia a full 100% of the children report attending this type of arrangement. Finland and Sweden report more than 50%. The Netherlands, Belgium and Portugal present percentages over 20%, while the rest of the countries surveyed have rather small percentages. This type of education and care seems more common in older than in younger children. It is important to note that this category refers to time spent in centre-based services outside school hours.

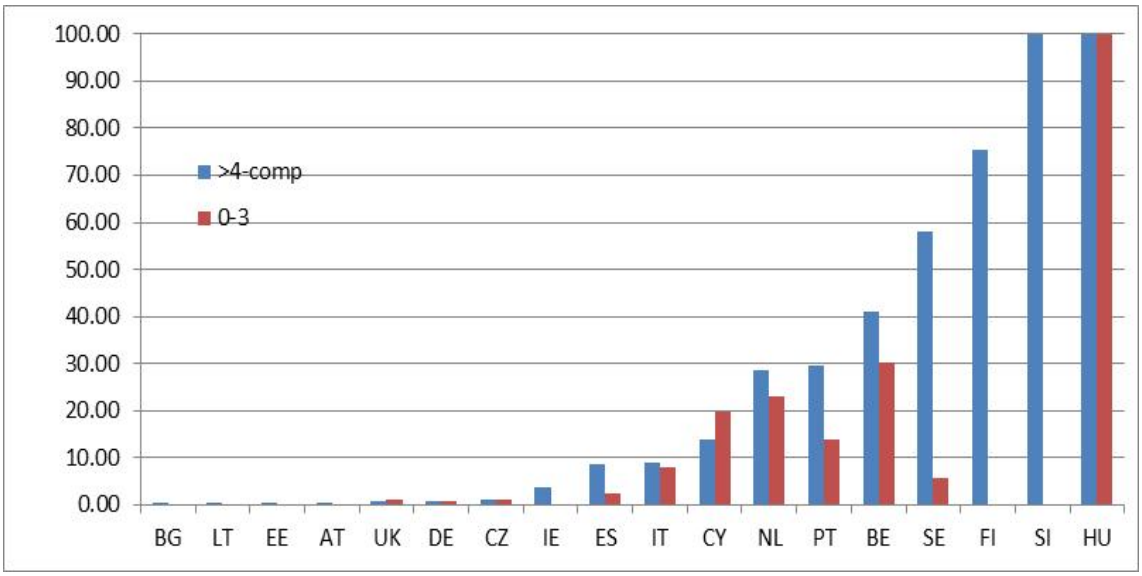


Figure 8: Percentage of participation in child care at centre-based services (RL030)

Thus, in formal education and care, older children seem to enroll more often than younger ones. The most reported arrangement is education at ISCED 0 (RL010), and several countries do not have data available in any other formal type of education and care. Germany seems to have a reporting pattern different than most of the EU countries, considering that most of the children attend RL040 which refers to centre-based care, instead of the most commonly used RL010, intended to capture ISCED 0.

It seems likely that countries in which participation in the different type of education and care is high (as in Sweden or Finland), children might spend more time in formal care than in other countries. Moreover, it is likely that those attending RL010 also attend other type of arrangements. In other words, it seems that the different types of formal arrangements are complementary and not exclusive.

Non-formal and informal education and care

Concerning non-formal and informal education and care, the percentage of children using this type of arrangement is smaller than the one for formal arrangements. Indeed, for "Child care by a professional child-minder at child's home or at child-minder's home"(RL050, see figure 9) the percentage of participation does not reach 20%, except in Romania, where there is a 100 % participate in this type of arrangements. However, as indicated before, RO data in this variable presents too many missing values (in both age groups), hence the results are not reliable. Participation in this type of care tends to be more prominent in younger children. Only three countries have more than 10% of participation in this type of care for children older than 4, while this is the case for eight countries in younger cohorts.

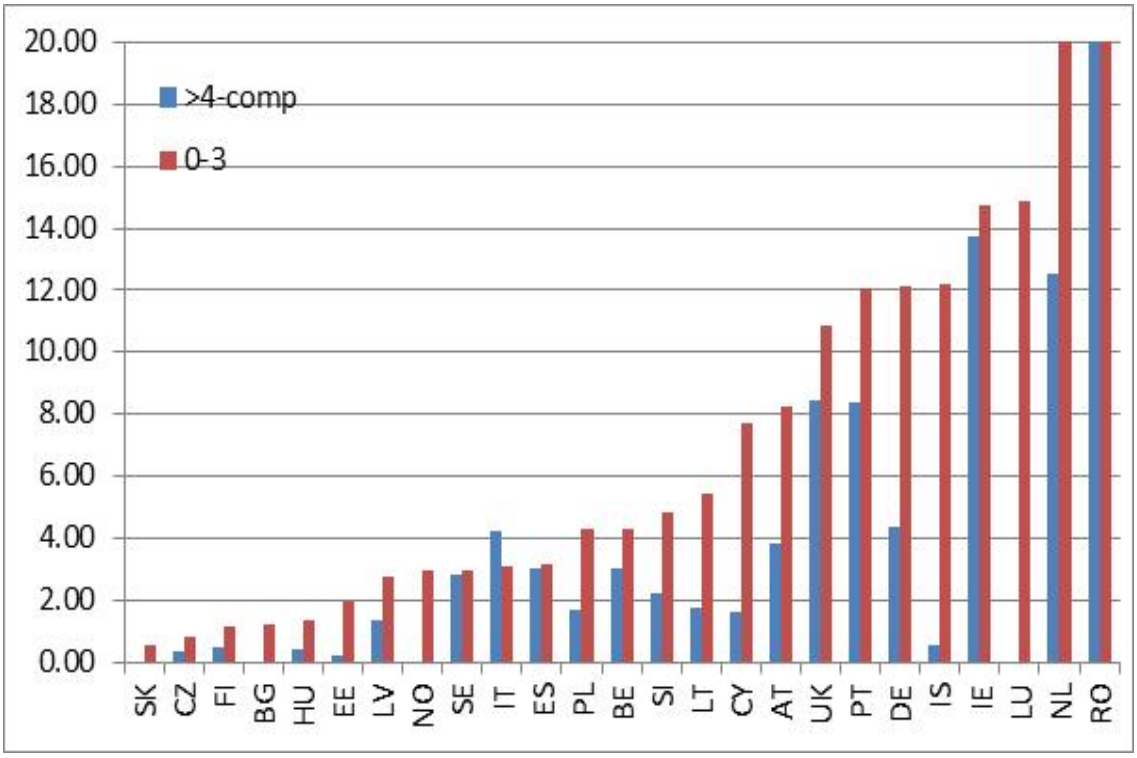


Figure 9: Percentage of participation in child care by a professional child-minder at child's home or at child-minder's home (RL050- non-formal ECEC)

With respect to "Child care by grand-parents, other household members (not parents), other relatives, friends or neighbours" (RL060) presents significant differences among countries. For four years old to compulsory age the percentage ranges between little more than 1% in Sweden to 54% in Slovenia; Romania again reports a rate of 100% but the same note of caution applies to this variable. The use of informal arrangements in most countries is similar, irrespective of age.

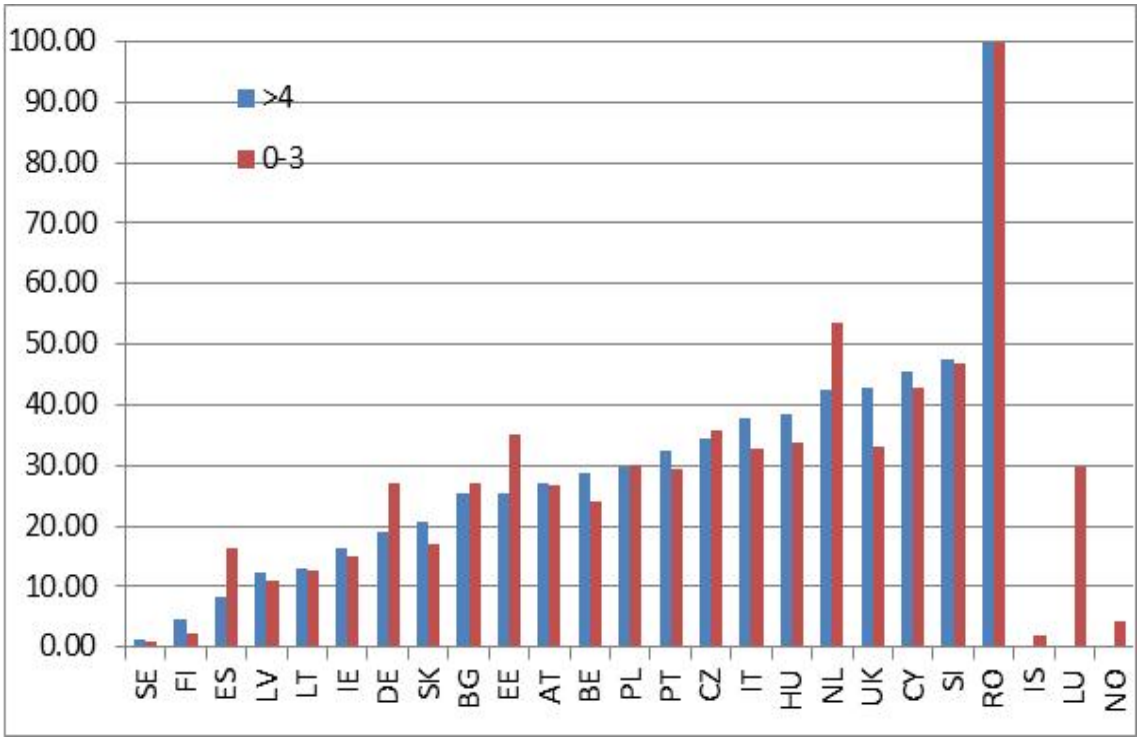


Figure 105: Percentage of participation in child care by grand-parents, others household members (other than parents), other relatives, friends or neighbours

Annex 2 presents the participation per country individually. The spider web graphs show in each of the age groups the percentage of participation for each type of education and care. Although it presents the same information than the graphs presented above (Figure from 6 to 9), it allows for a better understating of the country differences in terms of preferred arrangements. In general, ISCED 0 (RL010_c in this graph) presents the highest values. Graphs that take more area denote countries where participation is distributed between different arrangements, as is the case of FI or HU, for example. Through these graphs, it is also easier to see the distinctive case of Germany that displays an unusually high participation in RL040. The graphs also permit us to differentiate the participation between younger and older cohorts. A bigger shape in blue denotes a higher level of participation in the different arrangements. For example, in the NL, younger children seem to participate more in a variety of arrangements compare to older ones.

Time spent in education and care

The figures above have presented the percentage of participation in the different types of arrangements. This section focuses on the time spent in the different

arrangements. Figure 11 shows the average total time of ECEC participation for the 4 year-olds to compulsory age category by type of education and care. The blue bar shows the total time spent in formal arrangements (RL010+ RL030+RL040) while the red bar shows the average amount of time that children spent taking also into account the non-formal and informal types of education and care (RL010+ RL030+RL040+RL050+RL060). Six out of the 19 countries with data in all formal and informal type of education variables present total averages of time in education of less than 30 hours, and only two countries - IE and PL - are below 25 hours a week, on average. BG is the country where children seem to spend more time on average in some sort of education and care (non-parental), EE and LV are also above 40 hours on average, mainly due to the high amount of time spent in formal arrangements.

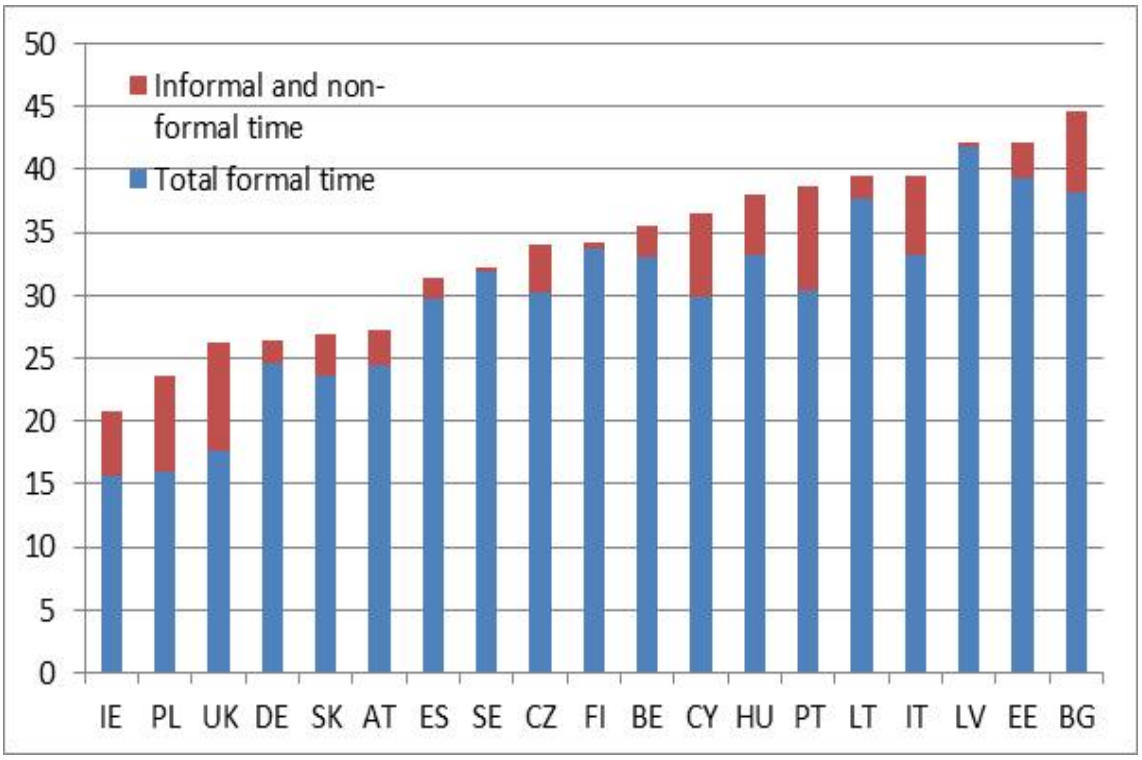


Figure 11: Total average time per week of children by type of care, 4 years old to compulsory (in hours)

Figure 12 shows the same information presented above but for the younger cohort. In general, on average, time seems to be somewhat shorter for younger cohorts. Only seven countries present average times higher than 35 hours. The UK and SK present the lowest amount of time with less than 15 hours. Average time seems to be mainly driven by the formal type of ECEC, but in some countries,

especially in PT, informal type of care has a significant influence on the average. In Italy, Sweden and LV the distinction between the two categories of arrangements does not seem to play a major role.

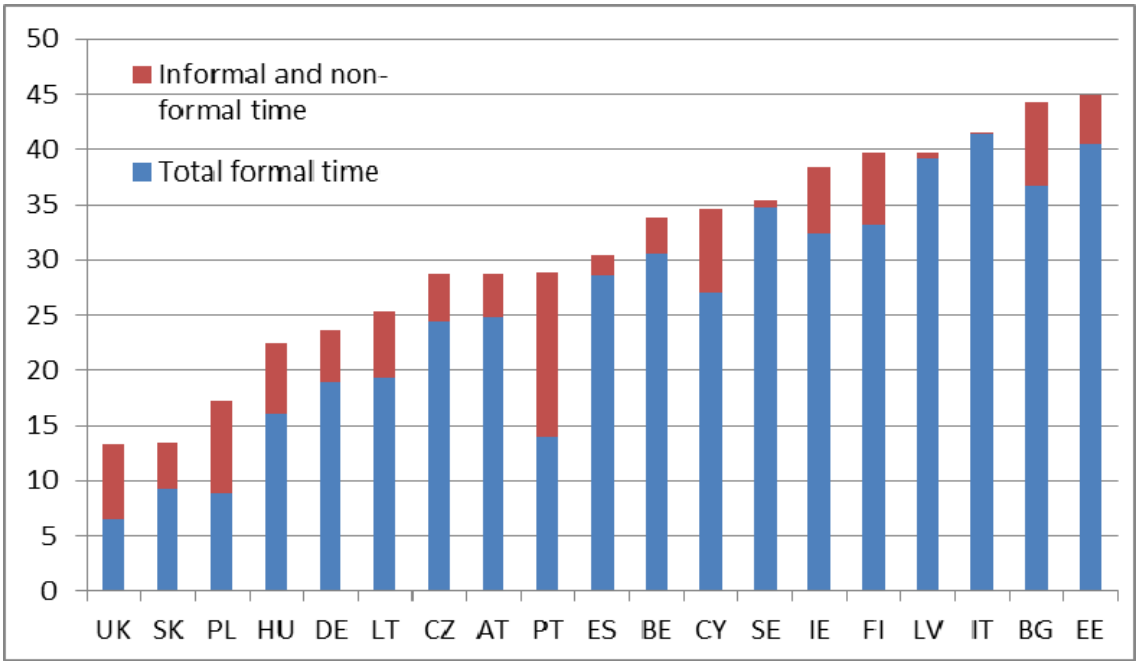


Figure 12: Total average time per week of children by type of care, 0 to 3 years old (in hours)

Table 3 shows a more specific picture of the average time per type of participation. The highest average time is in the UK in RL040: 45 hours per week for 4 to compulsory ages. The table shows in grey the highest average time in each of the two age cohorts per country. In general terms, education at ISCED 0 (RL010) presents the highest amount of time in almost all countries. However, it is not as clear as the percentage of participation. For example, in several countries although there are fewer children attending RL040 than Rl010 (ISCED 0), the children that participate in RL040 seem to do it for a longer period of time. This happens in DE, FI, HU, IE, PL, PT, SE and the UK for children from 4 to compulsory. This is even more so in the case of the younger cohort, where several countries present higher averages of participating time in RL050.

Table 1: Average time of participation in ECE by type (in hours)

	4 to compulsory					0-3, average time per type				
	RL010	RL030	RL040	RL050	RL060	RL010	RL030	RL040	RL050	RL060
AT	24.4	12.0		9.4	9.6	24.0		18.8	15.3	11.5
BE	30.4	6.5		7.1	7.8	28.9	6.3	30.0	21.5	16.5
BG	38.1	10.0			27.3	36.7		0.0	29.2	33.3
CY	28.8	11.7	13.9	17.1	14.0	28.6	14.1	33.2	36.2	28.0
CZ	30.1	10.5	20.0	21.0	11.9	24.3	5.9	20.0	15.8	11.4
DE	21.6	16.9	25.5	8.2	8.1	18.0	5.9	24.8	16.7	10.1
EE	39.4	5.2	1.0	5.0	13.4	40.5		20.0	13.3	12.8
ES	29.2	6.8	1.9	14.2	14.1	28.4	6.2	19.5	21.0	21.8
FI	19.7	19.1	34.0	39.1	12.2				33.1	22.8
HU	10.0	23.2	40.0	10.0	11.9	10.0	23.2	30.6	15.1	14.5
IE	14.8	8.4	25.5	16.5	13.8	13.5		23.8	26.6	19.1
IS	36.7			30.0		36.2		0.0	34.2	20.3
IT	32.5	8.3	4.5	10.2	13.5	31.6	8.7	6.0	9.4	19.2
LT	37.6	8.0		36.5	31.6	41.4		38.7	47.5	35.4
LU						16.3	18.4	29.6	22.8	14.6
LV	41.7			35.0	16.7	39.1		17.9	31.2	36.0
NL	24.5	7.5		8.1	5.7	24.2	6.2	15.7	13.3	8.0
NO										
PL	34.1		40.0	16.6	24.3	35.2		37.4	32.2	27.0
PT	29.2	12.1	29.7	24.1	19.3	27.8	18.4	37.2	42.8	33.0
RO	24.3			28.8	23.8	25.9			35.8	27.7
SE	15.0	15.8	31.9	30.3	17.5	15.0	31.1	29.5	28.4	29.1
SI	35.3	25.0	3.1	15.6	13.4	36.4		5.4	27.4	20.0
SK	36.2				13.1	36.0			20.9	19.2
UK	17.8	3.4	45.0	21.7	12.6	13.2	4.2	20.6	20.4	13.9

Formal vs informal education and care, the cases of RL010 and RL060

Figure 13 shows the average participation time in formal (Rl010) and informal education and care (RL060). The perpendicular line in the graph shows the points in which average participation is the same in both types of care. The percentage of children that are involved in informal care is substantially lower than that found for formal care. In fact, countries under the line show that the informal arrangements involve more time than the formal arrangements in several countries for the 0 to 3 age cohort. However, for the older cohort, the picture

changes considerably. Most of the children 4 and older seem to spend more time in formal care than in informal care.

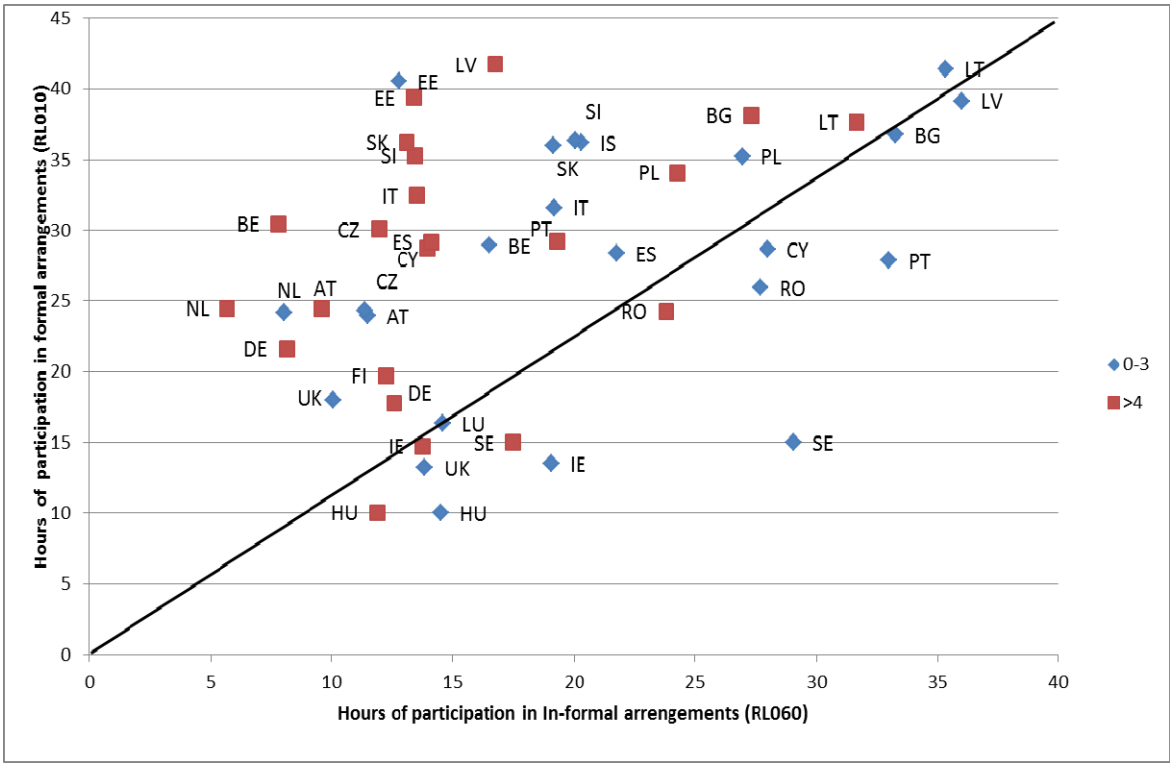


Figure 6: Total average of formal (RL010) vs informal type of ECEC (RL060)

It is important to note that this graph only shows averages per country and as such it tells us nothing about specific arrangements for individual children and whether there are compensatory or complementary effects to formal participation. Therefore, we cannot answer questions such as "are children that participate in formal arrangement less likely to be also involved in informal care?

In order to explore this question, we plotted (figure 14) the percentage of congruence in reported participation in formal (RL010) and informal (RL060) arrangements at the same time. The incidence of children going to both is higher for 4 years old to compulsory than for younger children in almost all the countries, except in IT and NL. Countries with a high level of participation in both age groups are RO, NL, LV and CY, while the rest present a substantial difference between the two groups. It seems, thus, that at older ages informal care complements formal care in most countries.

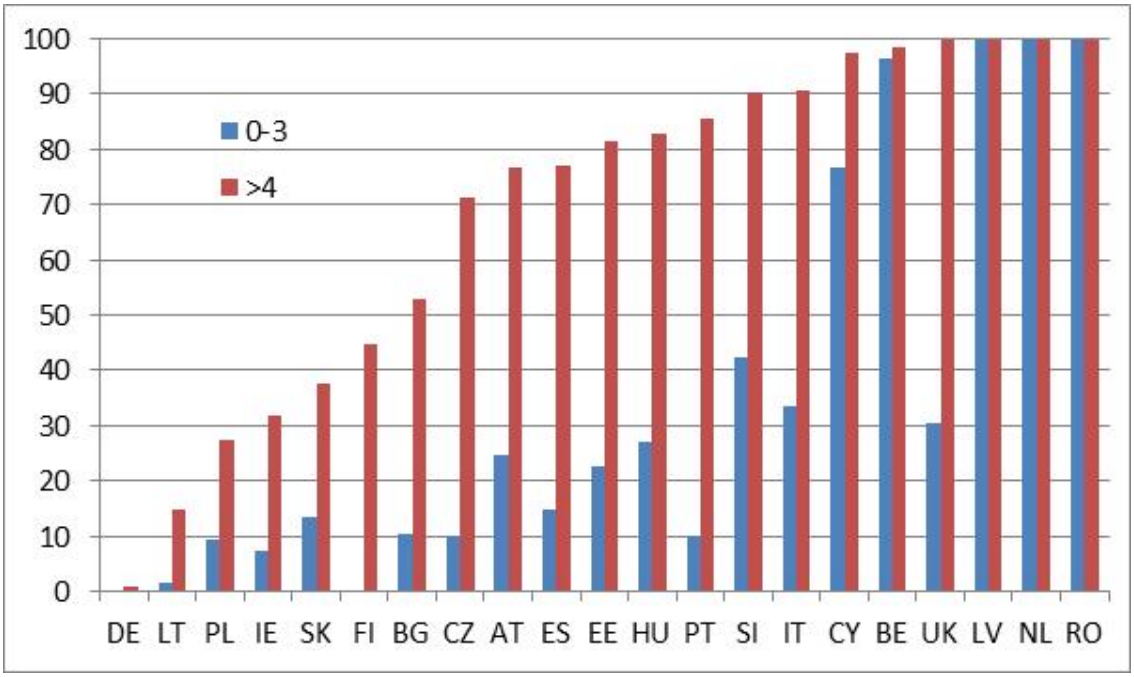


Figure 74: Percentage of children that participate in both formal (RL010) and informal (RL060) types of ECEC simultaneously.

Ages and participation

An important element to study the participation in ECEC is the age factor. It is necessary, thus, to explore age distribution in the EU-SILC sample. Table 4 shows the participation in all countries with data according to age (from 0 to compulsory school). In general terms, formal education is more common as age increases, while informal and non-formal care depend less on age.

Table 2: Percentage of participation by type of ECEC and age

AGE	RL010	RL060	RL020	RL030	RL040	RL050
0	10.4	24.3		1.9	6.6	5.6
1	27.9	35.2		2.5	15.2	8.9
2	46.4	33.6	0.8	4.5	21.7	8.2
3	65.0	28.7	3.6	6.8	22.9	6.4
4	70.2	29.9	23.2	8.2	21.0	5.2
5	67.6	25.5	29.1	15.2	26.4	2.8
6	92.7	40.4	77.4	44.8	1.6	4.0
Total	49.0	29.9	14.1	6.9	17.9	6.5

Possible use of household characteristics to explore ECEC using EU SILC

One of the main advantages of using EU-SILC is that it allows us to relate ECEC with household characteristics. Figure 16 shows, as an example, the difference on

average total time of participation in each type of arrangement according to the mother's employment status. Table 4 shows the aggregate (all country data available) average that has to be approached with caution, since it puts together very different countries with very different systems.

As could be expected, children (in both age cohorts) with employed mothers tend to attend ECEC more hours than children with mothers who are not employed. However, the differences are more prominent in children 0 to 3 than in older children. In fact, in RL060 (informal education and care), the average time of participation is almost the same.

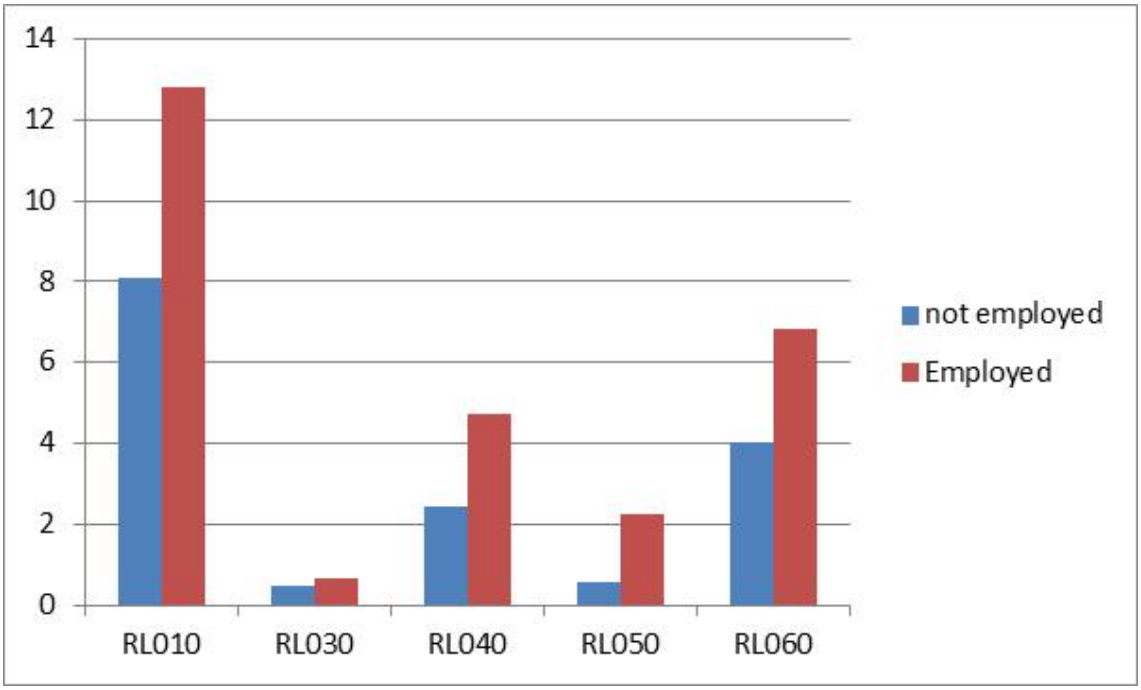


Figure 15: Average total number of hours of children between 0 and 3 years of age by type of education and care, by employment status of the mother (employed, not employed)

In addition, EU SILC allows for exploring the relationship between ECEC and other household variables such as household income, immigrant status, occupation, level of education, and employment status of the parents among other household characteristics. The figure below shows another example of how parents´ immigrant status relates to different types of care. Immigrant parents seem to

experience more difficulties in leaving their children with friends and family. They also tend to have the children participate longer hours in formal education.

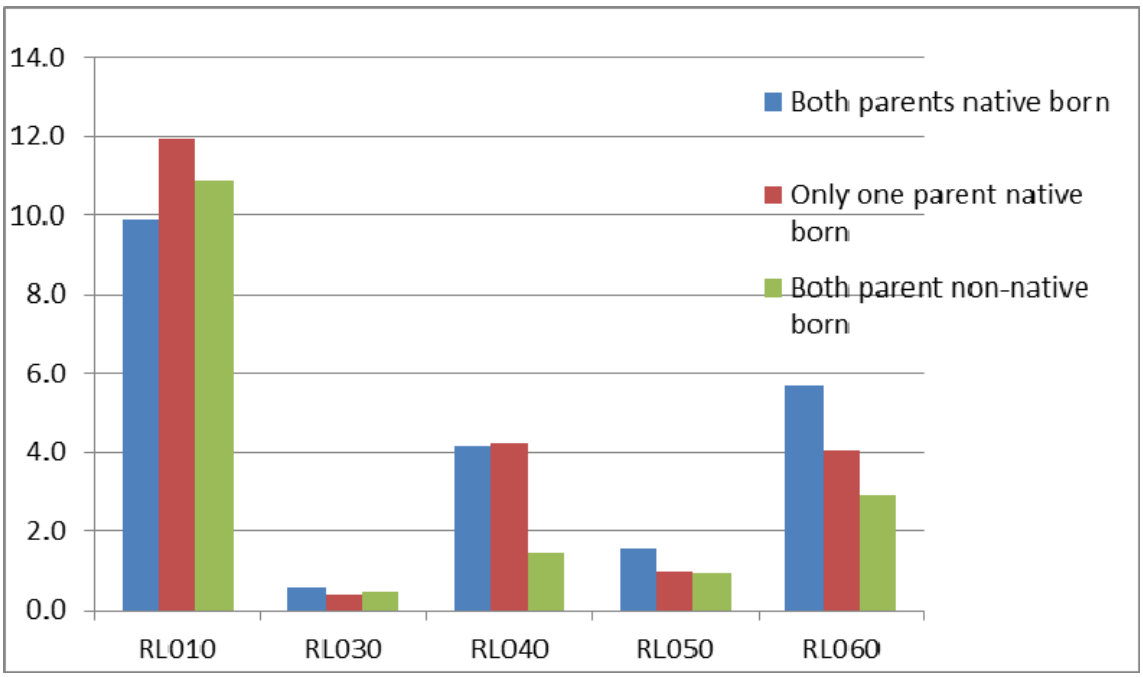


Figure 86: Average total number of hours of children between 0 and 3 years of age by type of education and care, by parent's migrant status

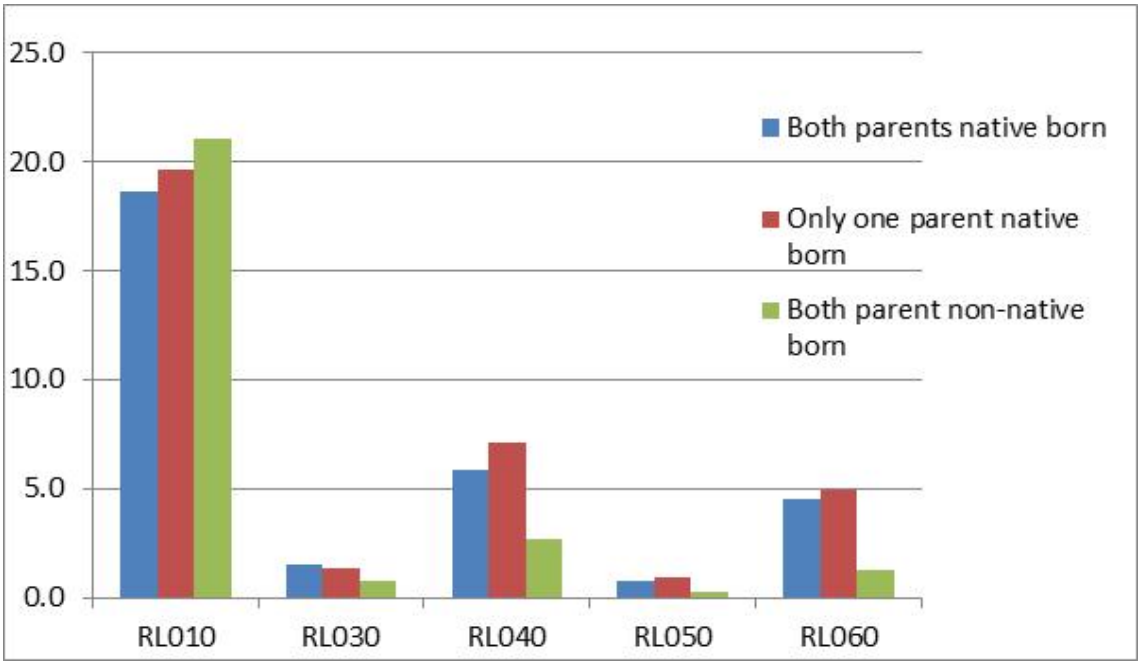


Figure 9: Average total number of hours of children between 4 years old and compulsory schooling age by type of education and care, by parent's migrant status

Figures 15 to 17 show that the EU-SILC survey allows us to see how socio-economic background factors are related to household characteristics. Further, the

dataset can be used to carry out multi-level analysis. So far, we have investigated some of these characteristics in participation in children with immigrant parents (see Araújo, Manca, Villalba and Villalba, 2011, personal communication).

7. Concluding remarks

This report has shown how EU-SILC can provide interesting information related to early childhood education and care. There are at least four major advantages of using EU-SILC for monitoring participation in ECEC. Firstly, EU-SILC allows us to differentiate between different types of arrangements that are, otherwise, missed in general statistics. These other types of arrangements are important to fully understand the picture on ECEC and the implications for policy. For example, if informal arrangements are not reported, we cannot explore the ways in which they relate to formal arrangements and policy interventions might be less effective. Secondly, in certain countries where different types of formal arrangements may present high participation rates, no differentiation of ECEC might produce a biased picture, since the reporting might be focused only in one type of participation, missing other relevant formal arrangements. Thirdly, EU-SILC records the time spent in each of the different types of arrangements. This is important since studies have shown that the amount of time spent in centre-based care as well as the quality of the educational setting are crucial factors for the implications of ECEC participation in later student achievement. Lastly, the possibility of using EU-SILC for more complex analysis relating ECEC to family and household characteristics is unique to this dataset and can provide important insights into what factors affect access and participation.

However, EU-SILC still presents major challenges. Comparability among countries might be limited. It seems that there is not good consensus on what each variable is supposed to capture, and each country seems to present a different pattern of responses that may be more driven by its individual educational system than to the homogenizing effort EU-SILC attempts to provide with respect to ECEC. This is not necessarily bad, as it may well show the differences in the structure of ECEC, but further efforts need to be realized in order to make the European Systems as a

whole readily understood and to converge on the use of common indicators and benchmarks. In sum, it would be desirable to be able to "translate" information from one system to another in order to allow for policy learning and monitoring. In addition, in many countries the missing values represent a high proportion of cases, which does not render the estimates reliable for those countries. For this reason, EU-SILC might be more suitable for country-specific reporting and analysis. Certain countries, with large samples (such as Italy or Spain) might provide better insights into the determinants of participation. Without further attempts to homogenize the data collection in this respect, it is questionable if monitoring and country comparison can be fully granted. The latest version of the ISCED, with its reformulation of ISCED 0, might provide a good basis towards this aim.

Finally, EU-SILC does not provide insight regarding qualitative aspects of ECEC provisions. The dataset provides information on the type of arrangements that indirectly relate to quality in that the concept of formal ECEC normally involves qualified personnel, particularly in the case of ISCED 0. However, there is no other information on qualitative aspects of those arrangements, such as parental involvement, monitoring structure, quality assurance mechanisms, general links to national or local regulations, leadership and management within the arrangements, etc. which are important aspects to determine the quality of education provided. In other words, the statistical information should necessarily be complemented with more qualitative information that can offer a comprehensive picture of ECEC provisions.

The fact that EU-SILC differentiates between formal and informal care by explicitly excluding from formal arrangements situations where parents pay directly nannies or careers who may or may not be qualified staff, eliminates the confusion in other data sources such as the OECD family database. Further efforts are needed in order to monitor quality in ECEC that is related to curriculum delivery and pedagogy, the physical conditions of the infrastructures in centre-based care and the quality of materials. More data is needed on quality as highlighted in various studies and reports (e.g. WCECCE Concept paper 2010, European Commission 2011a,

Melhuish, Romaniuk, Sammons, Sylva, Siraj-Blatchford & Taggart 2006, Sénéchal 2006).

ANNEX 1: Examples of questions

Sweden

RL010B
Hur har du/ni ordnat med tillsynen för ..NN.. (före eller efter skolans slut)?
ANGE FLERA SVAR MED MELLANSLAG MELLAN OM AKTUELLT.
FRITIDS SOM DRIVS SOM FÖRÄLDRAKOOPERATIV=KOD 1
DAGIS SOM DRIVS SOM FÖRÄLDRAKOOPERATIV=KOD 2
1 FRITIDS (EFTIS, M.M.)
2 DAGIS (FÖRSKOLA)
3 DAGMAMMA (FAMILJEDAGHEM)
4 ANSTÄLLD BARNFLICKA
5 FÅR TILLSYN AV MOR-/FARFÖRÄLDRAR/ANDRA SLÄKTINGAR/VÄNNER/GRANNAR
6 FÖRÄLDER ÄR HEMMA
7 BARNET KLARAR SIG SJÄLV
8 PERSONLIG ASSISTENT/VÅRDARE
9 ANNAT
F8 VET EJ
F9 VILL EJ SVARA

EUSILC Swedish questionnaire, page: 29

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280. ChAtt SHOWCARD 18

At any time during a typical term time week did (NAME) attend any of the following?

Play group or pre-school 1
Day-care centre or workplace creche 2
Nursery school 3
School (infant to secondary) 4
Breakfast/After school club 5
Children's centres/integrated centres/combined centres 6
Boarding school 7
None of these 8

Page: 92 UK EU-SILC questionnaire

(per le persone nate dopo il 31-12-1992)
Col. 23 Tipo di scuola frequentata
Scuola media superiore……1
Scuola media inferiore……2
Scuola elementare……3
Scuola materna ……4
Asilo nido ……5
Nessuna scuola……6

Italian EUSILC questionnaire:

ANNEX 2

ECEC, ages 4 to compulsory education (tables)

Participation

Table 3: Participation in formal ECEC (RL010, ISCED0)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	13808	10.9	11.0	11.0
		Participation	111919	88.7	89.0	100.0
		Total	125727	99.6	100.0	
	Missing	System	463	.4		
	Total		126191	100.0		
BE	Valid	Non participation	693	.4	.4	.4
		Participation	165905	95.2	99.6	100.0
		Total	166597	95.6	100.0	
	Missing	System	7731	4.4		
	Total		174328	100.0		
BG	Valid	Non participation	25378	23.2	23.2	23.2
		Participation	84166	76.8	76.8	100.0
		Total	109544	100.0	100.0	
CY	Valid	Non participation	282	2.1	2.2	2.2
		Participation	12385	93.4	97.8	100.0
		Total	12667	95.5	100.0	
	Missing	System	598	4.5		
	Total		13265	100.0		
CZ	Valid	Non participation	27468	15.9	16.1	16.1
		Participation	143657	83.3	83.9	100.0
		Total	171125	99.2	100.0	
	Missing	System	1313	.8		
	Total		172437	100.0		
DE	Valid	Non participation	988240	94.3	96.9	96.9
		Participation	31288	3.0	3.1	100.0
		Total	1019528	97.3	100.0	
	Missing	System	28554	2.7		
	Total		1048082	100.0		
EE	Valid	Non participation	2663	7.9	8.0	8.0
		Participation	30748	91.6	92.0	100.0
		Total	33410	99.5	100.0	
	Missing	System	173	.5		
	Total		33584	100.0		
ES	Valid	Non participation	18761	2.6	2.6	2.6
		Participation	716673	97.4	97.4	100.0
		Total	735434	100.0	100.0	
FI	Valid	Non participation	2633	1.7	6.0	6.0
		Participation	41362	26.4	94.0	100.0
		Total	43995	28.1	100.0	
	Missing	System	112672	71.9		
	Total		156667	100.0		
HU	Valid	Non participation	15781	9.7	9.7	9.7
		Participation	147653	90.3	90.3	100.0
		Total	163434	100.0	100.0	
IE	Valid	Non participation	18723	14.0	31.3	31.3
		Participation	41026	30.6	68.7	100.0
		Total	59749	44.6	100.0	

	Missing	System	74342	55.4		
	Total		134090	100.0		
IS	Valid	Non participation	191	2.7	2.7	2.7
		Participation	6861	96.8	97.3	100.0
		Total	7051	99.5	100.0	
	Missing	System	38	.5		
	Total		7090	100.0		
IT	Valid	Non participation	24218	3.7	4.8	4.8
		Participation	475257	72.4	95.2	100.0
		Total	499475	76.1	100.0	
	Missing	System	156756	23.9		
	Total		656231	100.0		
LT	Valid	Non participation	28712	39.3	39.8	39.8
		Participation	43448	59.4	60.2	100.0
		Total	72160	98.7	100.0	
	Missing	System	974	1.3		
	Total		73134	100.0		
LV	Valid	Participation	8858	79.8	100.0	100.0
	Missing	System	2238	20.2		
	Total		11096	100.0		
NL	Valid	Participation	76881	98.3	100.0	100.0
	Missing	System	1348	1.7		
	Total		78228	100.0		
NO	Missing	System	0	100.0		
PL	Valid	Non participation	291247	53.2	53.2	53.2
		Participation	256689	46.8	46.8	100.0
		Total	547936	100.0	100.0	
PT	Valid	Non participation	17701	10.1	10.1	10.1
		Participation	157530	89.9	89.9	100.0
		Total	175231	100.0	100.0	
RO	Valid	Participation	376558	72.4	100.0	100.0
	Missing	System	143397	27.6		
	Total		519954	100.0		
SE	Valid	Participation	122374	57.4	100.0	100.0
	Missing	System	90807	42.6		
	Total		213180	100.0		
SI	Valid	Non participation	3575	11.8	12.1	12.1
		Participation	25863	85.0	87.9	100.0
		Total	29438	96.8	100.0	
	Missing	System	983	3.2		
	Total		30421	100.0		
SK	Valid	Non participation	22022	36.0	36.3	36.3
		Participation	38722	63.4	63.7	100.0
		Total	60744	99.4	100.0	
	Missing	System	377	.6		
	Total		61121	100.0		
UK	Valid	Non participation	3416	.4	.8	.8
		Participation	424128	55.5	99.2	100.0
		Total	427544	55.9	100.0	
	Missing	System	336794	44.1		
	Total		764338	100.0		

Table 4: Participation in child care at centre-based services (RL030)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	111465	88.3	99.6	99.6
		Participation	454	.4	.4	100.0
		Total	111919	88.7	100.0	
	Missing	System	14271	11.3		
	Total		126191	100.0		
BE	Valid	Non participation	102194	58.6	59.0	59.0
		Participation	70942	40.7	41.0	100.0
		Total	173137	99.3	100.0	
	Missing	System	1191	.7		
	Total		174328	100.0		
BG	Valid	Non participation	84029	76.7	99.8	99.8
		Participation	137	.1	.2	100.0
		Total	84166	76.8	100.0	
	Missing	System	25378	23.2		
	Total		109544	100.0		
CY	Valid	Non participation	11441	86.2	86.2	86.2
		Participation	1824	13.8	13.8	100.0
		Total	13265	100.0	100.0	
CZ	Valid	Non participation	142280	82.5	99.0	99.0
		Participation	1377	.8	1.0	100.0
		Total	143657	83.3	100.0	
	Missing	System	28781	16.7		
	Total		172437	100.0		
DE	Valid	Non participation	1011877	96.5	99.2	99.2
		Participation	7651	.7	.8	100.0
		Total	1019528	97.3	100.0	
	Missing	System	28554	2.7		
	Total		1048082	100.0		
EE	Valid	Non participation	30829	91.8	99.7	99.7
		Participation	92	.3	.3	100.0
		Total	30921	92.1	100.0	
	Missing	System	2663	7.9		
	Total		33584	100.0		
ES	Valid	Non participation	655958	89.2	91.5	91.5
		Participation	60715	8.3	8.5	100.0
		Total	716673	97.4	100.0	
	Missing	System	18761	2.6		
	Total		735434	100.0		
FI	Valid	Non participation	10480	6.7	24.7	24.7
		Participation	31908	20.4	75.3	100.0
		Total	42388	27.1	100.0	
	Missing	System	114280	72.9		
	Total		156667	100.0		
HU	Valid	Participation	147483	90.2	100.0	100.0
	Missing	System	15951	9.8		
	Total		163434	100.0		
IE	Valid	Non participation	110324	82.3	96.3	96.3

		Participation	4237	3.2	3.7	100.0
		Total	114561	85.4	100.0	
	Missing	System	19529	14.6		
	Total		134090	100.0		
IS	Missing	System	7090	100.0		
IT	Valid	Non participation	574813	87.6	90.9	90.9
		Participation	57200	8.7	9.1	100.0
		Total	632013	96.3	100.0	
	Missing	System	24218	3.7		
	Total		656231	100.0		
LT	Valid	Non participation	44342	60.6	99.8	99.8
		Participation	81	.1	.2	100.0
		Total	44422	60.7	100.0	
	Missing	System	28712	39.3		
	Total		73134	100.0		
LV	Valid	Non participation	8858	79.8	100.0	100.0
	Missing	System	2238	20.2		
	Total		11096	100.0		
NL	Valid	Non participation	54965	70.3	71.5	71.5
		Participation	21915	28.0	28.5	100.0
		Total	76881	98.3	100.0	
	Missing	System	1348	1.7		
	Total		78228	100.0		
NO	Missing	System	0	100.0		
PL	Valid	Non participation	547936	100.0	100.0	100.0
PT	Valid	Non participation	123407	70.4	70.4	70.4
		Participation	51824	29.6	29.6	100.0
		Total	175231	100.0	100.0	
RO	Missing	System	519954	100.0		
SE	Valid	Non participation	58521	27.5	42.0	42.0
		Participation	80667	37.8	58.0	100.0
		Total	139189	65.3	100.0	
	Missing	System	73992	34.7		
	Total		213180	100.0		
SI	Valid	Participation	59	.2	100.0	100.0
	Missing	System	30363	99.8		
	Total		30421	100.0		
SK	Valid	Non participation	61121	100.0	100.0	100.0
UK	Valid	Non participation	759002	99.3	99.3	99.3
		Participation	5336	.7	.7	100.0
		Total	764338	100.0	100.0	

Table 5: Participation in child care at day-care centre (RL040)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	126191	100.0	100.0	100.0
BE	Valid	Non participation	173137	99.3	100.0	100.0
	Missing	System	1191	.7		
	Total		174328	100.0		
BG	Valid	Non participation	108930	99.4	99.4	99.4
		Participation	614	.6	.6	100.0
		Total	109544	100.0	100.0	
CY	Valid	Non participation	13141	99.1	99.1	99.1
		Participation	125	.9	.9	100.0
		Total	13265	100.0	100.0	
CZ	Valid	Non participation	171418	99.4	99.8	99.8
		Participation	335	.2	.2	100.0
		Total	171754	99.6	100.0	
	Missing	System	684	.4		
	Total		172437	100.0		
DE	Valid	Non participation	71080	6.8	7.0	7.0
		Participation	948448	90.5	93.0	100.0
		Total	1019528	97.3	100.0	
	Missing	System	28554	2.7		
	Total		1048082	100.0		
EE	Valid	Non participation	33431	99.5	99.5	99.5
		Participation	153	.5	.5	100.0
		Total	33584	100.0	100.0	
ES	Valid	Non participation	731480	99.5	99.5	99.5
		Participation	3954	.5	.5	100.0
		Total	735434	100.0	100.0	
FI	Valid	Non participation	72826	46.5	46.5	46.5
		Participation	83841	53.5	53.5	100.0
		Total	156667	100.0	100.0	
HU	Valid	Non participation	162751	99.6	99.6	99.6
		Participation	683	.4	.4	100.0
		Total	163434	100.0	100.0	
IE	Valid	Non participation	124890	93.1	93.1	93.1
		Participation	9201	6.9	6.9	100.0
		Total	134090	100.0	100.0	
IS	Valid	Non participation	7090	100.0	100.0	100.0
IT	Valid	Non participation	611441	93.2	93.2	93.2
		Participation	44790	6.8	6.8	100.0
		Total	656231	100.0	100.0	
LT	Valid	Non participation	73134	100.0	100.0	100.0
LV	Valid	Non participation	11096	100.0	100.0	100.0
NL	Valid	Non participation	1348	1.7	100.0	100.0
	Missing	System	76881	98.3		
	Total		78228	100.0		
NO	Valid	Non participation	0	12.7	12.7	12.7
		Participation	0	87.3	87.3	100.0
		Total	0	100.0	100.0	
PL	Valid	Non participation	546859	99.8	99.8	99.8
		Participation	1077	.2	.2	100.0
		Total	547936	100.0	100.0	

PT	Valid	Non participation	172757	98.6	98.6	98.6
		Participation	2474	1.4	1.4	100.0
		Total	175231	100.0	100.0	
RO	Missing	System	519954	100.0		
SE	Valid	Non participation	117544	55.1	57.0	57.0
		Participation	88694	41.6	43.0	100.0
		Total	206238	96.7	100.0	
	Missing	System	6942	3.3		
	Total		213180	100.0		
SI	Valid	Non participation	26502	87.1	90.0	90.0
		Participation	2936	9.7	10.0	100.0
		Total	29438	96.8	100.0	
	Missing	System	983	3.2		
	Total		30421	100.0		
SK	Valid	Non participation	59708	97.7	100.0	100.0
	Missing	System	1413	2.3		
	Total		61121	100.0		
UK	Valid	Non participation	761617	99.6	99.6	99.6
		Participation	2721	.4	.4	100.0
		Total	764338	100.0	100.0	

Table 6: Participation in child care by a professional child-minder at child's home or at child-minders home (RL050- non-formal ECEC)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	121385	96.2	96.2	96.2
		Participation	4806	3.8	3.8	100.0
		Total	126191	100.0	100.0	
BE	Valid	Non participation	167864	96.3	97.0	97.0
		Participation	5273	3.0	3.0	100.0
		Total	173137	99.3	100.0	
	Missing	System	1191	.7		
	Total		174328	100.0		
BG	Valid	Non participation	109544	100.0	100.0	100.0
CY	Valid	Non participation	13055	98.4	98.4	98.4
		Participation	210	1.6	1.6	100.0
		Total	13265	100.0	100.0	
CZ	Valid	Non participation	171209	99.3	99.7	99.7
		Participation	544	.3	.3	100.0
		Total	171754	99.6	100.0	
	Missing	System	684	.4		
	Total		172437	100.0		
DE	Valid	Non participation	974796	93.0	95.6	95.6
		Participation	44732	4.3	4.4	100.0
		Total	1019528	97.3	100.0	
	Missing	System	28554	2.7		
	Total		1048082	100.0		
EE	Valid	Non participation	33521	99.8	99.8	99.8
		Participation	63	.2	.2	100.0
		Total	33584	100.0	100.0	
ES	Valid	Non participation	713258	97.0	97.0	97.0
		Participation	22176	3.0	3.0	100.0
		Total	735434	100.0	100.0	
FI	Valid	Non participation	155916	99.5	99.5	99.5
		Participation	751	.5	.5	100.0
		Total	156667	100.0	100.0	
HU	Valid	Non participation	162750	99.6	99.6	99.6
		Participation	684	.4	.4	100.0
		Total	163434	100.0	100.0	
IE	Valid	Non participation	115646	86.2	86.2	86.2
		Participation	18445	13.8	13.8	100.0
		Total	134090	100.0	100.0	
IS	Valid	Non participation	7051	99.5	99.5	99.5
		Participation	38	.5	.5	100.0
		Total	7090	100.0	100.0	
IT	Valid	Non participation	628607	95.8	95.8	95.8
		Participation	27624	4.2	4.2	100.0
		Total	656231	100.0	100.0	
LT	Valid	Non participation	71863	98.3	98.3	98.3
		Participation	1272	1.7	1.7	100.0
		Total	73134	100.0	100.0	
LV	Valid	Non participation	10945	98.6	98.6	98.6
		Participation	151	1.4	1.4	100.0
		Total	11096	100.0	100.0	

NL	Valid	Non participation	68413	87.5	87.5	87.5
		Participation	9815	12.5	12.5	100.0
		Total	78228	100.0	100.0	
NO	Valid	Non participation	0	99.7	99.7	99.7
		Participation	0	.3	.3	100.0
		Total	0	100.0	100.0	
PL	Valid	Non participation	538804	98.3	98.3	98.3
		Participation	9132	1.7	1.7	100.0
		Total	547936	100.0	100.0	
PT	Valid	Non participation	160513	91.6	91.6	91.6
		Participation	14719	8.4	8.4	100.0
		Total	175231	100.0	100.0	
RO	Valid	Participation	15762	3.0	100.0	100.0
	Missing	System	504192	97.0		
	Total		519954	100.0		
SE	Valid	Non participation	200377	94.0	97.2	97.2
		Participation	5862	2.7	2.8	100.0
		Total	206238	96.7	100.0	
	Missing	System	6942	3.3		
	Total		213180	100.0		
SI	Valid	Non participation	29745	97.8	97.8	97.8
		Participation	677	2.2	2.2	100.0
		Total	30421	100.0	100.0	
SK	Valid	Non participation	59312	97.0	100.0	100.0
	Missing	System	1809	3.0		
	Total		61121	100.0		
UK	Valid	Non participation	699928	91.6	91.6	91.6
		Participation	64410	8.4	8.4	100.0
		Total	764338	100.0	100.0	

Table 7: Participation in child care by grand-parents, others household members (other than parents), other relatives, friends or neighbours (RL060 - informal ECEC)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	91832	72.8	72.8	72.8
		Participation	34358	27.2	27.2	100.0
		Total	126191	100.0	100.0	
BE	Valid	Non participation	123360	70.8	71.3	71.3
		Participation	49776	28.6	28.7	100.0
		Total	173137	99.3	100.0	
	Missing	System	1191	.7		
	Total		174328	100.0		
BG	Valid	Non participation	81855	74.7	74.7	74.7
		Participation	27689	25.3	25.3	100.0
		Total	109544	100.0	100.0	
CY	Valid	Non participation	7239	54.6	54.6	54.6
		Participation	6026	45.4	45.4	100.0
		Total	13265	100.0	100.0	
CZ	Valid	Non participation	112850	65.4	65.7	65.7
		Participation	58903	34.2	34.3	100.0
		Total	171754	99.6	100.0	
	Missing	System	684	.4		
	Total		172437	100.0		
DE	Valid	Non participation	825006	78.7	80.9	80.9
		Participation	194522	18.6	19.1	100.0
		Total	1019528	97.3	100.0	
	Missing	System	28554	2.7		
	Total		1048082	100.0		
EE	Valid	Non participation	25070	74.7	74.7	74.7
		Participation	8513	25.3	25.3	100.0
		Total	33584	100.0	100.0	
ES	Valid	Non participation	674161	91.7	91.7	91.7
		Participation	61273	8.3	8.3	100.0
		Total	735434	100.0	100.0	
FI	Valid	Non participation	149564	95.5	95.5	95.5
		Participation	7103	4.5	4.5	100.0
		Total	156667	100.0	100.0	
HU	Valid	Non participation	100731	61.6	61.6	61.6
		Participation	62703	38.4	38.4	100.0
		Total	163434	100.0	100.0	
IE	Valid	Non participation	112227	83.7	83.7	83.7
		Participation	21863	16.3	16.3	100.0
		Total	134090	100.0	100.0	
IS	Valid	Non participation	7090	100.0	100.0	100.0
IT	Valid	Non participation	407102	62.0	62.0	62.0
		Participation	249129	38.0	38.0	100.0
		Total	656231	100.0	100.0	
LT	Valid	Non participation	63605	87.0	87.0	87.0
		Participation	9530	13.0	13.0	100.0
		Total	73134	100.0	100.0	
LV	Valid	Non participation	9718	87.6	87.6	87.6

		Participation	1378	12.4	12.4	100.0
		Total	11096	100.0	100.0	
NL	Valid	Non participation	44040	56.3	57.5	57.5
		Participation	32576	41.6	42.5	100.0
		Total	76616	97.9	100.0	
	Missing	System	1612	2.1		
	Total		78228	100.0		
NO	Valid	Non participation	0	98.1	98.1	98.1
		Participation	0	1.9	1.9	100.0
		Total	0	100.0	100.0	
PL	Valid	Non participation	385183	70.3	70.3	70.3
		Participation	162753	29.7	29.7	100.0
		Total	547936	100.0	100.0	
PT	Valid	Non participation	118191	67.4	67.4	67.4
		Participation	57041	32.6	32.6	100.0
		Total	175231	100.0	100.0	
RO	Valid	Participation	245094	47.1	100.0	100.0
	Missing	System	274861	52.9		
	Total		519954	100.0		
SE	Valid	Non participation	203330	95.4	98.6	98.6
		Participation	2909	1.4	1.4	100.0
		Total	206238	96.7	100.0	
	Missing	System	6942	3.3		
	Total		213180	100.0		
SI	Valid	Non participation	15952	52.4	52.4	52.4
		Participation	14469	47.6	47.6	100.0
		Total	30421	100.0	100.0	
SK	Valid	Non participation	46236	75.6	79.3	79.3
		Participation	12090	19.8	20.7	100.0
		Total	58326	95.4	100.0	
	Missing	System	2795	4.6		
	Total		61121	100.0		
UK	Valid	Non participation	435916	57.0	57.0	57.0
		Participation	328422	43.0	43.0	100.0
		Total	764338	100.0	100.0	

Information on time

Table 8: Observations (weighted), Minimum, Maximum, Mean and Std. Deviation of the Number of hours per week in ECEC

RB020		N	Minimum	Maximum	Mean	Std. Deviation
AT	RL010	125727	0	50	21.75	11.091
	RL030	111919	0	12	.05	.763
	RL040	126191	0	0	.00	.000
	RL050	126191	0	20	.36	2.038
	RL050	126191	0	40	2.62	5.664
	Valid N (listwise)	111919				
BE	RL010	166597	0	50	30.32	4.801
	RL030	173137	0	29	2.65	4.074
	RL040	173137	0	0	.00	.000
	RL050	173137	0	15	.22	1.453
	RL050	173137	0	50	2.24	5.129
	Valid N (listwise)	166597				
BG	RL010	109544	0	60	29.30	17.959
	RL030	84166	0	10	.02	.403
	RL040	109544	0	99	.55	7.391
	RL050	109544	0	0	.00	.000
	RL050	109544	0	99	6.90	16.847
	Valid N (listwise)	84166				
CY	RL010	12667	0	40	28.12	4.779
	RL030	13265	0	20	1.60	4.422
	RL040	13265	0	15	.13	1.359
	RL050	13265	0	18	.27	2.139
	RL050	13265	0	30	6.34	8.317
	Valid N (listwise)	12667				
CZ	RL010	171125	0	95	25.24	14.905
	RL030	143657	0	20	.10	1.200
	RL040	171754	0	20	.04	.883
	RL050	171754	0	21	.07	1.181
	RL050	171754	0	60	4.10	8.317
	Valid N (listwise)	143657				
DE	RL010	1019528	0	40	.66	4.200
	RL030	1019528	0	29	.13	1.777
	RL040	1019528	0	50	23.76	12.423
	RL050	1019528	0	35	.36	2.291
	RL050	1019528	0	44	1.55	4.215
	Valid N (listwise)	1019528				
EE	RL010	33410	0	52	36.23	12.412
	RL030	30921	0	12	.02	.384
	RL040	33584	0	1	.00	.067
	RL050	33584	0	5	.01	.216
	RL050	33584	0	50	3.40	8.335
	Valid N (listwise)	30748				
ES	RL010	735434	0	50	28.42	8.614
	RL030	716673	0	20	.57	2.425
	RL040	735434	0	4	.01	.157
	RL050	735434	0	25	.43	2.654
	RL050	735434	0	50	1.18	4.639
	Valid N (listwise)	716673				
FI	RL010	43995	0	20	18.53	4.790
	RL030	42388	0	38	14.39	9.571
	RL040	156667	0	50	18.18	18.188
	RL050	156667	0	45	.19	2.745
	RL050	156667	0	38	.55	3.188
	Valid N (listwise)	42388				
HU	RL010	163434	0	20	9.08	4.273
	RL030	147483	1	42	23.24	7.408
	RL040	163434	0	40	.17	2.580

	RL050	163434	0	10	.04	.645
	RL050	163434	0	99	4.55	8.624
	Valid N (listwise)	147483				
IE	RL010	59749	0	45	10.13	8.488
	RL030	114561	0	22	.31	2.004
	RL040	134090	0	40	1.75	7.283
	RL050	134090	0	40	2.28	6.634
	RL050	134090	0	60	2.25	6.374
	Valid N (listwise)	41026				
IS	RL010	7051	0	45	35.73	8.598
	RL030	0				
	RL040	7090	0	0	.00	.000
	RL050	7090	0	30	.16	2.193
	RL050	7090	0	0	.00	.000
	Valid N (listwise)	0				
IT	RL010	499475	0	54	30.91	10.436
	RL030	632013	0	30	.75	3.049
	RL040	656231	0	30	.30	1.962
	RL050	656231	0	60	.43	3.334
	RL050	656231	0	70	5.13	9.352
	Valid N (listwise)	475257				
LT	RL010	72160	0	60	22.67	19.424
	RL030	44422	0	8	.01	.340
	RL040	73134	0	0	.00	.000
	RL050	73134	0	40	.63	4.845
	RL050	73134	0	99	4.12	13.554
	Valid N (listwise)	43448				
LV	RL010	8858	4	99	41.74	10.818
	RL030	8858	0	0	.00	.000
	RL040	11096	0	0	.00	.000
	RL050	11096	0	35	.48	4.057
	RL050	11096	0	50	2.08	8.420
	Valid N (listwise)	8858				
NL	RL010	76881	23	40	24.49	1.905
	RL030	76881	0	21	2.15	4.132
	RL040	1348	0	0	.00	.000
	RL050	78228	0	20	1.02	3.324
	RL050	76616	0	36	2.42	4.955
	Valid N (listwise)	0				
NO	RL010	0				
	RL030	0				
	RL040	0	0	50	.	.
	RL050	0	0	12	.	.
	RL050	0	0	12	.	.
	Valid N (listwise)	0				
PL	RL010	547936	0	56	15.97	17.783
	RL030	547936	0	0	.00	.000
	RL040	547936	0	40	.08	1.771
	RL050	547936	0	45	.28	2.866
	RL050	547936	0	98	7.22	14.887
	Valid N (listwise)	547936				
PT	RL010	175231	0	30	26.29	9.148
	RL030	175231	0	30	3.59	6.197
	RL040	175231	0	50	.42	4.158
	RL050	175231	0	45	2.02	7.883
	RL050	175231	0	48	6.28	11.980
	Valid N (listwise)	175231				
RO	RL010	376558	4	40	24.28	9.158
	RL030	0				
	RL040	0				
	RL050	15762	15	40	28.85	9.271
	RL050	245094	2	70	23.81	14.888
	Valid N (listwise)	0				
SE	RL010	122374	15	15	15.00	.000
	RL030	139189	0	40	9.14	9.223
	RL040	206238	0	50	13.70	16.761

	RL050	206238	0	45	.86	5.209
	RL050	206238	0	40	.25	2.544
	Valid N (listwise)	122374				
SI	RL010	29438	0	50	31.00	13.901
	RL030	59	25	25	25.00	.000
	RL040	29438	0	10	.31	1.230
	RL050	30421	0	40	.35	3.196
	RL050	30421	0	50	6.39	11.078
	Valid N (listwise)	0				
SK	RL010	60744	0	48	23.09	18.186
	RL030	61121	0	0	.00	.000
	RL040	59708	0	0	.00	.000
	RL050	59312	0	0	.00	.000
	RL050	58326	0	40	2.72	6.406
	Valid N (listwise)	57949				
UK	RL010	427544	0	50	17.61	8.946
	RL030	764338	0	5	.02	.324
	RL040	764338	0	45	.16	2.680
	RL050	764338	0	60	1.83	7.025
	RL050	764338	0	96	5.42	11.943
	Valid N (listwise)	427544				

Standard Errors (of unweighted average)

Table 9: Average time per week spent in ECEC and Standard errors, no weights

RB020		N	Mean	
		Statistic	Statistic	Std. Error
AT	RL010	247	21.95	.659
	RL030	225	.05	.053
	RL040	248	.00	.000
	RL50	248	.43	.145
	RL060	248	2.85	.374
	Valid N (listwise)	225		
BE	RL010	266	30.24	.320
	RL030	277	2.82	.263
	RL040	277	.00	.000
	RL050	277	.21	.085
	RL060	277	2.59	.339
	Valid N (listwise)	266		
BG	RL010	236	27.42	1.238
	RL030	167	.06	.060
	RL040	236	.42	.419
	RL050	236	.00	.000
	RL060	236	7.49	1.149
	Valid N (listwise)	167		
CY	RL010	146	27.87	.426
	RL030	152	1.39	.336
	RL040	152	.16	.118
	RL050	152	.22	.154
	RL060	152	5.97	.691
	Valid N (listwise)	146		
CZ	RL010	403	26.00	.719
	RL030	345	.12	.071
	RL040	405	.05	.049
	RL050	405	.05	.052
	RL060	405	4.24	.419
	Valid N (listwise)	345		
DE	RL010	390	.66	.213
	RL030	390	.13	.090
	RL040	390	23.88	.633
	RL050	390	.36	.115
	RL060	390	1.55	.215
	Valid N (listwise)	390		
DK	RL010	262	12.90	.910
	RL030	323	18.03	.834
	RL040	522	12.18	.723
	RL050	522	.00	.000
	RL060	522	.00	.000
	Valid N (listwise)	262		
EE	RL010	326	34.34	.800
	RL030	288	.05	.042
	RL040	329	.00	.003
	RL050	329	.02	.015
	RL060	329	4.20	.548
	Valid N (listwise)	285		
ES	RL010	601	28.36	.314
	RL030	590	.60	.100
	RL040	601	.02	.009
	RL050	601	.31	.096
	RL060	601	1.21	.192
	Valid N (listwise)	590		
FI	RL010	207	18.31	.344
	RL030	199	12.75	.684

	RL040	802	17.93	.639
	RL050	802	.27	.114
	RL060	802	.58	.118
	Valid N (listwise)	199		
HU	RL010	363	9.00	.220
	RL030	329	22.88	.405
	RL040	363	.11	.110
	RL050	363	.03	.028
	RL060	363	4.54	.474
	Valid N (listwise)	329		
IE	RL010	117	10.32	.826
	RL030	258	.37	.138
	RL040	296	1.44	.339
	RL050	296	1.86	.332
	RL060	296	2.00	.388
	Valid N (listwise)	81		
IS	RL010	185	35.73	.634
	RL030	0		
	RL040	186	.00	.000
	RL050	186	.16	.161
	RL060	186	.00	.000
	Valid N (listwise)	0		
IT	RL010	432	31.24	.481
	RL030	522	.81	.142
	RL040	542	.41	.116
	RL050	542	.53	.159
	RL060	542	5.08	.428
	Valid N (listwise)	412		
LT	RL010	181	23.38	1.506
	RL030	111	.07	.072
	RL040	184	.00	.000
	RL050	184	.57	.334
	RL060	184	4.03	.951
	Valid N (listwise)	108		
LV	RL010	48	42.42	1.980
	RL030	48	.00	.000
	RL040	60	.00	.000
	RL050	60	.58	.583
	RL060	60	1.88	1.067
	Valid N (listwise)	48		
NL	RL010	147	24.53	.171
	RL030	147	2.22	.337
	RL040	2	.00	.000
	RL050	149	1.38	.316
	RL060	146	2.75	.421
	Valid N (listwise)	0		
NO	RL010	0		
	RL030	0		
	RL040	315	29.44	.730
	RL050	315	.04	.038
	RL060	315	.10	.050
	Valid N (listwise)	0		
PL	RL010	556	14.62	.746
	RL030	556	.00	.000
	RL040	556	.14	.102
	RL050	556	.24	.121
	RL060	556	7.13	.616
	Valid N (listwise)	556		
PT	RL010	131	25.95	.840
	RL030	131	3.80	.587
	RL040	131	.73	.450
	RL050	131	1.18	.530
	RL060	131	4.93	.906
	Valid N (listwise)	131		
RO	RL010	278	24.18	.558
	RL030	0		
	RL040	0		

	RL050	11	27.18	2.818
	RL060	172	23.14	1.102
	Valid N (listwise)	0		
SE	RL010	251	15.00	.000
	RL030	283	9.11	.550
	RL040	423	13.41	.809
	RL050	423	.78	.243
	RL060	423	.27	.124
	Valid N (listwise)	251		
SI	RL010	371	30.37	.732
	RL030	1	25.00	.
	RL040	371	.24	.052
	RL050	387	.32	.155
	RL060	387	6.19	.540
	Valid N (listwise)	0		
SK	RL010	171	21.90	1.421
	RL030	172	.00	.000
	RL040	167	.00	.000
	RL050	166	.00	.000
	RL060	162	2.51	.490
	Valid N (listwise)	161		
UK	RL010	140	17.16	.776
	RL030	254	.02	.020
	RL040	254	.18	.177
	RL050	254	2.14	.478
	RL060	254	5.07	.715
	Valid N (listwise)	140		

ECEC, ages 0 to 3 (tables)

Participation

Table 10: Participation in formal ECEC (RL010, ISCED0)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	101123	31.7	63.2	63.2
		Participation	58983	18.5	36.8	100.0
		Total	160106	50.3	100.0	
	Missing	System	158425	49.7		
		Total	318531	100.0		
BE	Valid	Non participation	2213	.4	1.0	1.0
		Participation	218562	40.5	99.0	100.0
		Total	220775	40.9	100.0	
	Missing	System	318600	59.1		
		Total	539375	100.0		
BG	Valid	Non participation	219495	78.0	78.0	78.0
		Participation	61772	22.0	22.0	100.0
		Total	281268	100.0	100.0	
CY	Valid	Non participation	1411	3.8	18.2	18.2
		Participation	6347	17.3	81.8	100.0
		Total	7758	21.1	100.0	
	Missing	System	29030	78.9		
		Total	36788	100.0		
CZ	Valid	Non participation	343938	83.5	83.5	83.5
		Participation	67832	16.5	16.5	100.0
		Total	411771	100.0	100.0	
	Missing	System	202	.0		
		Total	411973	100.0		
DE	Valid	Non participation	1575844	53.3	97.7	97.7
		Participation	37601	1.3	2.3	100.0
		Total	1613445	54.6	100.0	
	Missing	System	1343922	45.4		
		Total	2957367	100.0		
EE	Valid	Non participation	38562	66.0	66.0	66.0
		Participation	19884	34.0	34.0	100.0
		Total	58446	100.0	100.0	
ES	Valid	Non participation	882278	43.3	45.1	45.1
		Participation	1073859	52.7	54.9	100.0
		Total	1956137	96.1	100.0	
	Missing	System	79801	3.9		
		Total	2035938	100.0		
FI	Missing	System	233214	100.0		
HU	Valid	Non participation	120439	31.0	62.5	62.5
		Participation	72148	18.6	37.5	100.0
		Total	192587	49.6	100.0	
	Missing	System	195333	50.4		
		Total	387920	100.0		
IE	Valid	Non participation	87183	38.3	69.4	69.4
		Participation	38358	16.8	30.6	100.0
		Total	125541	55.1	100.0	
	Missing	System	102312	44.9		
		Total	227852	100.0		
IS	Valid	Non participation	7193	41.4	41.5	41.5
		Participation	10125	58.3	58.5	100.0
		Total	17318	99.6	100.0	
	Missing	System	63	.4		
		Total	17381	100.0		
IT	Valid	Non participation	1354629	50.9	50.9	50.9
		Participation	1307519	49.1	49.1	100.0

		Total	2662148	100.0	100.0	
		Non participation	12978	9.9	33.8	33.8
	Valid	Participation	25463	19.4	66.2	100.0
LT		Total	38441	29.2	100.0	
	Missing	System	93063	70.8		
		Total	131504	100.0		
	Valid	Participation	3958	16.8	100.0	100.0
LU	Missing	System	19587	83.2		
		Total	23545	100.0		
	Valid	Participation	27927	30.3	100.0	100.0
LV	Missing	System	64384	69.7		
		Total	92311	100.0		
	Valid	Participation	107149	14.4	100.0	100.0
NL	Missing	System	637892	85.6		
		Total	745041	100.0		
NO	Missing	System	0	100.0		
		Non participation	353143	22.4	76.7	76.7
	Valid	Participation	107329	6.8	23.3	100.0
PL		Total	460471	29.2	100.0	
	Missing	System	1116441	70.8		
		Total	1576912	100.0		
		Non participation	360107	76.8	76.8	76.8
PT	Valid	Participation	108488	23.2	23.2	100.0
		Total	468596	100.0	100.0	
	Valid	Participation	153619	17.9	100.0	100.0
RO	Missing	System	702625	82.1		
		Total	856244	100.0		
	Valid	Participation	29867	7.5	100.0	100.0
SE	Missing	System	367357	92.5		
		Total	397224	100.0		
		Non participation	41197	52.6	55.0	55.0
	Valid	Participation	33717	43.1	45.0	100.0
SI		Total	74913	95.7	100.0	
	Missing	System	3342	4.3		
		Total	78256	100.0		
		Non participation	88169	51.6	75.4	75.4
	Valid	Participation	28814	16.9	24.6	100.0
SK		Total	116983	68.5	100.0	
	Missing	System	53734	31.5		
		Total	170717	100.0		
		Non participation	1633589	56.1	56.8	56.8
	Valid	Participation	1241964	42.7	43.2	100.0
UK		Total	2875553	98.8	100.0	
	Missing	System	33783	1.2		
		Total	2909336	100.0		

Table 11: Participation in child care at centre-based services (RL030)

Table 12: Participation in child care at day-care centre (RL040)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	295135	92.7	92.7	92.7
		Participation	23396	7.3	7.3	100.0
		Total	318531	100.0	100.0	
BE	Valid	Non participation	378029	70.1	76.7	76.7
		Participation	114654	21.3	23.3	100.0
		Total	492683	91.3	100.0	
	Missing	System	46692	8.7		
	Total		539375	100.0		
BG	Valid	Non participation	281268	100.0	100.0	100.0
CY	Valid	Non participation	29182	79.3	79.3	79.3
		Participation	7606	20.7	20.7	100.0

		Total	36788	100.0	100.0	
CZ	Valid	Non participation	411395	99.9	99.9	99.9
		Participation	376	.1	.1	100.0
		Total	411771	100.0	100.0	
	Missing	System	202	.0		
	Total		411973	100.0		
DE	Valid	Non participation	415213	14.0	25.7	25.7
		Participation	1198232	40.5	74.3	100.0
		Total	1613445	54.6	100.0	
	Missing	System	1343922	45.4		
	Total		2957367	100.0		
EE	Valid	Non participation	58427	100.0	100.0	100.0
		Participation	19	.0	.0	100.0
		Total	58446	100.0	100.0	
ES	Valid	Non participation	2015602	99.0	99.0	99.0
		Participation	20335	1.0	1.0	100.0
		Total	2035938	100.0	100.0	
FI	Valid	Non participation	150711	64.6	64.6	64.6
		Participation	82503	35.4	35.4	100.0
		Total	233214	100.0	100.0	
HU	Valid	Non participation	353909	91.2	91.2	91.2
		Participation	34011	8.8	8.8	100.0
		Total	387920	100.0	100.0	
IE	Valid	Non participation	196768	86.4	86.4	86.4
		Participation	31084	13.6	13.6	100.0
		Total	227852	100.0	100.0	
IS	Valid	Non participation	17381	100.0	100.0	100.0
IT	Valid	Non participation	2596860	97.5	97.5	97.5
		Participation	65288	2.5	2.5	100.0
		Total	2662148	100.0	100.0	
LT	Valid	Non participation	113571	86.4	86.4	86.4
		Participation	17933	13.6	13.6	100.0
		Total	131504	100.0	100.0	
LU	Valid	Non participation	17808	75.6	75.6	75.6
		Participation	5733	24.3	24.4	100.0
		Total	23541	100.0	100.0	
	Missing	System	4	.0		
	Total		23545	100.0		
LV	Valid	Non participation	92089	99.8	99.8	99.8
		Participation	222	.2	.2	100.0
		Total	92311	100.0	100.0	
NL	Valid	Non participation	244089	32.8	38.3	38.3
		Participation	393803	52.9	61.7	100.0
		Total	637892	85.6	100.0	
	Missing	System	107149	14.4		
	Total		745041	100.0		
NO	Valid	Non participation	0	45.1	45.1	45.1
		Participation	0	54.9	54.9	100.0
		Total	0	100.0	100.0	
PL	Valid	Non participation	1534242	97.3	97.3	97.3
		Participation	42670	2.7	2.7	100.0
		Total	1576912	100.0	100.0	
PT	Valid	Non participation	405984	86.6	86.6	86.6
		Participation	62612	13.4	13.4	100.0
		Total	468596	100.0	100.0	
RO	Missing	System	856244	100.0		
SE	Valid	Non participation	90487	22.8	23.6	23.6
		Participation	293317	73.8	76.4	100.0
		Total	383804	96.6	100.0	
	Missing	System	13420	3.4		
	Total		397224	100.0		
SI	Valid	Non participation	72686	92.9	97.0	97.0
		Participation	2228	2.8	3.0	100.0
		Total	74913	95.7	100.0	
	Missing	System	3342	4.3		
	Total		78256	100.0		
SK	Valid	Non participation	166248	97.4	100.0	100.0

	Missing	System	4469	2.6		
	Total		170717	100.0		
UK	Valid	Non participation	2809808	96.6	96.6	96.6
		Participation	99528	3.4	3.4	100.0
		Total	2909336	100.0	100.0	

Table 13: Participation in child care by a professional child-minder at child's home or at child-minders home (RL050- non-formal ECEC)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	292325	91.8	91.8	91.8
		Participation	26206	8.2	8.2	100.0
		Total	318531	100.0	100.0	
BE	Valid	Non participation	471406	87.4	95.7	95.7
		Participation	21277	3.9	4.3	100.0
		Total	492683	91.3	100.0	
	Missing	System	46692	8.7		
	Total		539375	100.0		
BG	Valid	Non participation	277820	98.8	98.8	98.8
		Participation	3448	1.2	1.2	100.0
		Total	281268	100.0	100.0	
CY	Valid	Non participation	33943	92.3	92.3	92.3
		Participation	2845	7.7	7.7	100.0
		Total	36788	100.0	100.0	
CZ	Valid	Non participation	408500	99.2	99.2	99.2
		Participation	3271	.8	.8	100.0
		Total	411771	100.0	100.0	
	Missing	System	202	.0		
	Total		411973	100.0		
DE	Valid	Non participation	1418132	48.0	87.9	87.9
		Participation	195314	6.6	12.1	100.0
		Total	1613445	54.6	100.0	
	Missing	System	1343922	45.4		
	Total		2957367	100.0		
EE	Valid	Non participation	57314	98.1	98.1	98.1
		Participation	1132	1.9	1.9	100.0
		Total	58446	100.0	100.0	
ES	Valid	Non participation	1971237	96.8	96.8	96.8
		Participation	64701	3.2	3.2	100.0
		Total	2035938	100.0	100.0	
FI	Valid	Non participation	230502	98.8	98.8	98.8
		Participation	2711	1.2	1.2	100.0
		Total	233214	100.0	100.0	
HU	Valid	Non participation	382631	98.6	98.6	98.6
		Participation	5289	1.4	1.4	100.0
		Total	387920	100.0	100.0	
IE	Valid	Non participation	194232	85.2	85.2	85.2
		Participation	33621	14.8	14.8	100.0
		Total	227852	100.0	100.0	
IS	Valid	Non participation	15258	87.8	87.8	87.8
		Participation	2123	12.2	12.2	100.0
		Total	17381	100.0	100.0	
IT	Valid	Non participation	2580121	96.9	96.9	96.9
		Participation	82028	3.1	3.1	100.0
		Total	2662148	100.0	100.0	
LT	Valid	Non participation	124370	94.6	94.6	94.6
		Participation	7134	5.4	5.4	100.0
		Total	131504	100.0	100.0	
LU	Valid	Non participation	19943	84.7	85.1	85.1
		Participation	3478	14.8	14.9	100.0
		Total	23422	99.5	100.0	
	Missing	System	124	.5		
	Total		23545	100.0		

LV	Valid	Non participation	89801	97.3	97.3	97.3
		Participation	2511	2.7	2.7	100.0
		Total	92311	100.0	100.0	
NL	Valid	Non participation	593350	79.6	79.9	79.9
		Participation	149274	20.0	20.1	100.0
		Total	742625	99.7	100.0	
	Missing	System	2416	.3		
	Total		745041	100.0		
NO	Valid	Non participation	0	97.0	97.0	97.0
		Participation	0	3.0	3.0	100.0
		Total	0	100.0	100.0	
PL	Valid	Non participation	1509055	95.7	95.7	95.7
		Participation	67857	4.3	4.3	100.0
		Total	1576912	100.0	100.0	
PT	Valid	Non participation	411971	87.9	87.9	87.9
		Participation	56625	12.1	12.1	100.0
		Total	468596	100.0	100.0	
RO	Valid	Participation	45125	5.3	100.0	100.0
	Missing	System	811120	94.7		
	Total		856244	100.0		
SE	Valid	Non participation	372387	93.7	97.0	97.0
		Participation	11417	2.9	3.0	100.0
		Total	383804	96.6	100.0	
	Missing	System	13420	3.4		
	Total		397224	100.0		
SI	Valid	Non participation	71273	91.1	95.1	95.1
		Participation	3641	4.7	4.9	100.0
		Total	74913	95.7	100.0	
	Missing	System	3342	4.3		
	Total		78256	100.0		
SK	Valid	Non participation	164028	96.1	99.5	99.5
		Participation	893	.5	.5	100.0
		Total	164921	96.6	100.0	
	Missing	System	5796	3.4		
	Total		170717	100.0		
UK	Valid	Non participation	2591069	89.1	89.1	89.1
		Participation	316234	10.9	10.9	100.0
		Total	2907303	99.9	100.0	
	Missing	System	2033	.1		
	Total		2909336	100.0		

Table 14: participation in child care by grand-parents, others household members (outside parents), other relatives, friends or neighbours (RL060 - informal ECEC)

RB020			Frequency	Percent	Valid Percent	Cumulative Percent
AT	Valid	Non participation	233836	73.4	73.4	73.4
		Participation	84694	26.6	26.6	100.0
		Total	318531	100.0	100.0	
BE	Valid	Non participation	373908	69.3	75.9	75.9
		Participation	118775	22.0	24.1	100.0
		Total	492683	91.3	100.0	
	Missing	System	46692	8.7		
	Total		539375	100.0		
BG	Valid	Non participation	204747	72.8	72.8	72.8
		Participation	76521	27.2	27.2	100.0
		Total	281268	100.0	100.0	
CY	Valid	Non participation	20978	57.0	57.0	57.0
		Participation	15810	43.0	43.0	100.0
		Total	36788	100.0	100.0	
CZ	Valid	Non participation	264360	64.2	64.2	64.2
		Participation	147411	35.8	35.8	100.0
		Total	411771	100.0	100.0	
	Missing	System	202	.0		

	Total		411973	100.0		
DE	Valid	Non participation	1174216	39.7	72.8	72.8
		Participation	439230	14.9	27.2	100.0
		Total	1613445	54.6	100.0	
	Missing	System	1343922	45.4		
	Total		2957367	100.0		
EE	Valid	Non participation	37972	65.0	65.0	65.0
		Participation	20474	35.0	35.0	100.0
		Total	58446	100.0	100.0	
ES	Valid	Non participation	1701324	83.6	83.6	83.6
		Participation	334361	16.4	16.4	100.0
		Total	2035686	100.0	100.0	
	Missing	System	252	.0		
	Total		2035938	100.0		
FI	Valid	Non participation	227783	97.7	97.7	97.7
		Participation	5431	2.3	2.3	100.0
		Total	233214	100.0	100.0	
HU	Valid	Non participation	256682	66.2	66.2	66.2
		Participation	131238	33.8	33.8	100.0
		Total	387920	100.0	100.0	
IE	Valid	Non participation	193890	85.1	85.1	85.1
		Participation	33962	14.9	14.9	100.0
		Total	227852	100.0	100.0	
IS	Valid	Non participation	17022	97.9	98.1	98.1
		Participation	327	1.9	1.9	100.0
		Total	17349	99.8	100.0	
	Missing	System	32	.2		
	Total		17381	100.0		
IT	Valid	Non participation	1785645	67.1	67.1	67.1
		Participation	876503	32.9	32.9	100.0
		Total	2662148	100.0	100.0	
LT	Valid	Non participation	114899	87.4	87.4	87.4
		Participation	16605	12.6	12.6	100.0
		Total	131504	100.0	100.0	
LU	Valid	Non participation	16475	70.0	70.2	70.2
		Participation	6990	29.7	29.8	100.0
		Total	23465	99.7	100.0	
	Missing	System	80	.3		
	Total		23545	100.0		
LV	Valid	Non participation	82217	89.1	89.1	89.1
		Participation	10095	10.9	10.9	100.0
		Total	92311	100.0	100.0	
NL	Valid	Non participation	339704	45.6	46.5	46.5
		Participation	390991	52.5	53.5	100.0
		Total	730695	98.1	100.0	
	Missing	System	14346	1.9		
	Total		745041	100.0		
NO	Valid	Non participation	0	95.8	95.8	95.8
		Participation	0	4.2	4.2	100.0
		Total	0	100.0	100.0	
PL	Valid	Non participation	1102627	69.9	69.9	69.9
		Participation	473946	30.1	30.1	100.0
		Total	1576573	100.0	100.0	
	Missing	System	339	.0		
	Total		1576912	100.0		
PT	Valid	Non participation	330345	70.5	70.5	70.5
		Participation	138251	29.5	29.5	100.0
		Total	468596	100.0	100.0	
RO	Valid	Participation	402973	47.1	100.0	100.0
	Missing	System	453271	52.9		
	Total		856244	100.0		
SE	Valid	Non participation	379613	95.6	98.9	98.9
		Participation	4191	1.1	1.1	100.0
		Total	383804	96.6	100.0	
	Missing	System	13420	3.4		
	Total		397224	100.0		
SI	Valid	Non participation	39836	50.9	53.2	53.2

		Participation	35077	44.8	46.8	100.0
		Total	74913	95.7	100.0	
	Missing	System	3342	4.3		
	Total		78256	100.0		
SK	Valid	Non participation	136640	80.0	82.9	82.9
		Participation	28282	16.6	17.1	100.0
		Total	164921	96.6	100.0	
	Missing	System	5796	3.4		
	Total		170717	100.0		
UK	Valid	Non participation	1933499	66.5	66.8	66.8
		Participation	962355	33.1	33.2	100.0
		Total	2895855	99.5	100.0	
	Missing	System	13481	.5		
	Total		2909336	100.0		

Information on time

Table 15: Number of observations, minimum, maximum, average time and Std. dev. of the time spent in ECEC by type

RB020		N	Minimum	Maximum	Mean	Std. Deviation
AT	RL010	160106	0	45	8.83	12.818
	RL030	59662	0	0	.00	.000
	RL040	318531	0	40	1.38	5.844
	RL050	318531	0	50	1.26	5.308
	RL060	318531	0	56	3.05	7.336
	Valid N (listwise)	58983				
BE	RL010	220775	0	48	28.64	6.657
	RL030	220775	0	20	1.90	3.569
	RL040	492683	0	53	6.99	13.715
	RL050	492683	0	50	.93	5.163
	RL060	492683	0	95	3.98	9.448
	Valid N (listwise)	220775				
BG	RL010	281268	0	50	8.07	16.041
	RL030	61772	0	0	.00	.000
	RL040	281268	0	0	.00	.000
	RL050	281268	0	84	.36	4.518
	RL060	281268	0	99	9.05	19.488
	Valid N (listwise)	61772				
CY	RL010	7758	0	55	23.42	11.621
	RL030	7758	0	20	2.80	6.135
	RL040	36788	0	50	6.87	13.884
	RL050	36788	0	50	2.80	10.057
	RL060	36788	0	66	12.03	17.033
	Valid N (listwise)	7758				
CZ	RL010	411771	0	45	4.01	9.993
	RL030	67832	0	10	.07	.776
	RL040	411771	0	20	.02	.604
	RL050	411771	0	40	.13	1.840
	RL060	411771	0	98	4.07	8.580
	Valid N (listwise)	67832				
DE	RL010	1613445	0	40	.42	3.284
	RL030	1613445	0	9	.04	.525
	RL040	1613445	0	50	18.40	14.823
	RL050	1613445	0	50	2.02	7.054
	RL060	1613445	0	84	2.75	6.629
	Valid N (listwise)	1613445				
EE	RL010	58446	0	50	13.78	19.432
	RL030	19884	0	0	.00	.000
	RL040	58446	0	20	.01	.357
	RL050	58446	0	40	.26	2.402
	RL060	58446	0	60	4.48	8.980
	Valid N (listwise)	19884				
ES	RL010	1956137	0	99	15.57	15.967
	RL030	1073859	0	15	.14	1.197
	RL040	2035938	0	30	.19	2.105
	RL050	2035938	0	60	.67	4.371
	RL060	2035686	0	98	3.58	9.967
	Valid N (listwise)	1073859				
FI	RL010	0				
	RL030	0				
	RL040	233214	0	50	12.13	17.245
	RL050	233214	0	45	.38	3.651
	RL060	233214	0	45	.53	3.969
	Valid N (listwise)	0				
HU	RL010	192587	0	15	3.75	5.197
	RL030	72148	5	35	23.21	7.010
	RL040	387920	0	45	2.68	9.232
	RL050	387920	0	25	.21	1.909

	RL060	387920	0	99	4.90	10.741
	Valid N (listwise)	72148				
IE	RL010	125541	0	50	4.12	7.500
	RL030	38358	0	0	.00	.000
	RL040	227852	0	55	3.25	9.659
	RL050	227852	0	50	3.92	10.700
	RL060	227852	0	48	2.84	8.496
	Valid N (listwise)	38358				
IS	RL010	17318	0	45	21.16	18.393
	RL030	0				
	RL040	17381	0	0	.00	.000
	RL050	17381	0	45	4.17	11.421
	RL060	17349	0	35	.38	3.088
	Valid N (listwise)	0				
IT	RL010	2662148	0	54	15.51	16.897
	RL030	1307519	0	30	.70	3.008
	RL040	2662148	0	30	.15	1.725
	RL050	2662148	0	40	.29	2.442
	RL060	2662148	0	70	6.31	12.677
	Valid N (listwise)	1307519				
LT	RL010	38441	0	55	27.43	20.947
	RL030	25463	0	0	.00	.000
	RL040	131504	0	50	5.28	13.497
	RL050	131504	0	50	2.58	10.808
	RL060	131504	0	84	4.46	12.519
	Valid N (listwise)	25463				
LU	RL010	3958	8	35	16.35	8.242
	RL030	3958	0	36	2.88	8.154
	RL040	23541	0	55	7.21	13.939
	RL050	23422	0	54	3.39	9.652
	RL060	23465	0	50	4.35	9.730
	Valid N (listwise)	3845				
LV	RL010	27927	7	99	39.12	9.562
	RL030	27927	0	0	.00	.000
	RL040	92311	0	30	.04	.926
	RL050	92311	0	50	.85	5.558
	RL060	92311	0	99	3.94	13.313
	Valid N (listwise)	27927				
NL	RL010	107149	23	40	24.15	1.884
	RL030	107149	0	15	1.42	3.059
	RL040	637892	0	70	9.71	10.877
	RL050	742625	0	72	2.68	7.206
	RL060	730695	0	50	4.30	6.424
	Valid N (listwise)	0				
NO	RL010	0				
	RL030	0				
	RL040	0	0	47	.	.
	RL050	0	0	45	.	.
	RL060	0	0	99	.	.
	Valid N (listwise)	0				
PL	RL010	460471	0	68	8.21	15.426
	RL030	460471	0	0	.00	.000
	RL040	1576912	0	50	1.01	6.190
	RL050	1576912	0	70	1.39	7.159
	RL060	1576573	0	98	8.10	15.555
	Valid N (listwise)	460471				
PT	RL010	468596	0	30	6.45	11.998
	RL030	468596	0	30	2.54	7.454
	RL040	468596	0	55	4.96	13.008
	RL050	468596	0	72	5.17	14.548
	RL060	468596	0	99	9.74	18.369
	Valid N (listwise)	468596				
RO	RL010	153619	4	40	25.94	10.294
	RL030	0				
	RL040	0				
	RL050	45125	10	50	35.82	12.982
	RL060	402973	1	70	27.70	16.058

	Valid N (listwise)	0				
SE	RL010	29867	15	15	15.00	.000
	RL030	29867	0	40	1.74	7.853
	RL040	383804	0	50	22.58	14.819
	RL050	383804	0	50	.85	5.194
	RL060	383804	0	40	.32	3.187
	Valid N (listwise)	29867				
SI	RL010	74913	0	50	16.37	18.668
	RL030	0				
	RL040	74913	0	30	.16	1.605
	RL050	74913	0	50	1.33	6.916
	RL060	74913	0	60	9.38	15.041
	Valid N (listwise)	0				
SK	RL010	116983	0	45	8.87	15.794
	RL030	116983	0	0	.00	.000
	RL040	166248	0	0	.00	.000
	RL050	164921	0	40	.11	1.974
	RL060	164921	0	50	3.28	9.466
	Valid N (listwise)	111648				
UK	RL010	2875553	0	84	5.70	9.323
	RL030	2909336	0	30	.05	.916
	RL040	2909336	0	45	.70	4.297
	RL050	2907303	0	52	2.22	7.423
	RL060	2895855	0	84	4.61	9.798
	Valid N (listwise)	2862072				

Standard Errors

Table 16: Unweigthed average time of participation and Standard Errors

RB020		N	Mean	
		Statistic	Statistic	Std. Error
AT	RL010	308	9.31	.738
	RL030	122	.00	.000
	RL040	654	1.30	.218
	RL050	654	.95	.185
	RL060	654	2.93	.276
	Valid N (listwise)	120		
BE	RL010	312	28.51	.374
	RL030	312	2.17	.217
	RL040	661	6.91	.528
	RL050	661	1.02	.212
	RL060	661	4.23	.380
	Valid N (listwise)	312		
BG	RL010	411	8.99	.826
	RL030	101	.00	.000
	RL040	411	.00	.000
	RL050	411	.62	.322
	RL060	411	10.36	.987
	Valid N (listwise)	101		
CY	RL010	82	22.34	1.396
	RL030	82	1.98	.581
	RL040	370	6.65	.704
	RL050	370	2.46	.492
	RL060	370	11.61	.881
	Valid N (listwise)	82		
CZ	RL010	1059	4.12	.312
	RL030	179	.07	.057
	RL040	1059	.02	.019
	RL050	1059	.08	.047
	RL060	1059	4.09	.267
	Valid N (listwise)	179		
DE	RL010	546	.42	.141
	RL030	546	.04	.023
	RL040	546	18.75	.631
	RL050	546	1.99	.302
	RL060	546	2.60	.272
	Valid N (listwise)	546		
DK	RL010	0		
	RL030	0		
	RL040	744	27.33	.542
	RL050	744	.00	.000
	RL060	744	.16	.084
	Valid N (listwise)	0		
EE	RL010	536	11.93	.804
	RL030	159	.00	.000
	RL040	503	.04	.040
	RL050	503	.23	.110
	RL060	503	4.99	.444
	Valid N (listwise)	159		
ES	RL010	1399	15.33	.416
	RL030	761	.15	.043
	RL040	1445	.22	.059
	RL050	1445	.80	.125
	RL060	1444	3.54	.277

	Valid N (listwise)	761		
FI	RL010	0		
	RL030	0		
	RL040	1169	12.45	.507
	RL050	1169	.42	.115
	RL060	1169	.61	.123
	Valid N (listwise)	0		
GR	RL010	649	6.96	.506
	RL030	159	.60	.254
	RL040	649	.06	.048
	RL050	649	.88	.206
	RL060	649	13.48	.706
	Valid N (listwise)	159		
HU	RL010	388	3.47	.256
	RL030	136	22.94	.584
	RL040	803	2.20	.298
	RL050	803	.14	.054
	RL060	803	4.65	.390
	Valid N (listwise)	136		
IE	RL010	254	4.70	.565
	RL030	78	.00	.000
	RL040	497	3.54	.451
	RL050	497	3.97	.474
	RL060	497	2.36	.346
	Valid N (listwise)	78		
IS	RL010	513	20.24	.818
	RL030	0		
	RL040	515	.00	.000
	RL050	515	4.45	.518
	RL060	514	.40	.140
	Valid N (listwise)	0		
IT	RL010	2173	15.56	.358
	RL030	1094	.52	.078
	RL040	2173	.19	.042
	RL050	2173	.33	.056
	RL060	2173	6.74	.278
	Valid N (listwise)	1094		
LT	RL010	71	21.93	2.447
	RL030	40	.00	.000
	RL040	299	5.56	.802
	RL050	299	1.30	.432
	RL060	299	5.47	.810
	Valid N (listwise)	40		
LU	RL010	105	18.79	.748
	RL030	105	2.88	.755
	RL040	797	6.96	.500
	RL050	795	3.81	.366
	RL060	795	3.11	.318
	Valid N (listwise)	103		
LV	RL010	148	39.70	.796
	RL030	148	.00	.000
	RL040	509	.09	.066
	RL050	509	.97	.266
	RL060	509	3.81	.568
	Valid N (listwise)	148		
NL	RL010	207	24.29	.134
	RL030	207	1.70	.229

	RL040	1317	9.34	.288
	RL050	1519	3.03	.190
	RL060	1493	4.35	.166
	Valid N (listwise)	0		
NO	RL010	0		
	RL030	0		
	RL040	795	17.19	.609
	RL050	795	.83	.185
	RL060	795	.53	.159
	Valid N (listwise)	0		
PL	RL010	508	7.25	.656
	RL030	508	.00	.000
	RL040	1636	.84	.139
	RL050	1636	1.24	.170
	RL060	1635	7.99	.388
	Valid N (listwise)	508		
PT	RL010	269	6.68	.744
	RL030	269	2.03	.397
	RL040	269	5.24	.800
	RL050	269	4.42	.800
	RL060	269	9.45	1.069
	Valid N (listwise)	269		
RO	RL010	100	26.17	1.048
	RL030	0		
	RL040	0		
	RL050	19	35.74	3.076
	RL060	211	27.62	1.138
	Valid N (listwise)	0		
SE	RL010	55	15.00	.000
	RL030	55	1.64	1.030
	RL040	1006	18.44	.503
	RL050	1006	.74	.155
	RL060	1006	.26	.093
	Valid N (listwise)	55		
SI	RL010	906	15.31	.606
	RL030	0		
	RL040	906	.17	.058
	RL050	906	1.29	.227
	RL060	906	9.36	.498
	Valid N (listwise)	0		
SK	RL010	339	7.50	.807
	RL030	339	.00	.000
	RL040	486	.00	.000
	RL050	481	.10	.084
	RL060	481	3.34	.448
	Valid N (listwise)	323		
UK	RL010	945	5.84	.315
	RL030	958	.06	.033
	RL040	958	.66	.135
	RL050	957	2.38	.247
	RL060	953	4.43	.313
	Valid N (listwise)	940		

Standard Errors

Table 17: Number of observations (unweighted), average time spent in ECEC and Standard Error

RB020		N	Mean	
		Statistic	Statistic	Std. Error
AT	RL010	308	9.31	.738
	RL030	122	.00	.000
	RL040	654	1.30	.218
	RL050	654	.95	.185
	RL060	654	2.93	.276
	Valid N (listwise)	120		
BE	RL010	312	28.51	.374
	RL030	312	2.17	.217
	RL040	661	6.91	.528
	RL050	661	1.02	.212
	RL060	661	4.23	.380
	Valid N (listwise)	312		
BG	RL010	411	8.99	.826
	RL030	101	.00	.000
	RL040	411	.00	.000
	RL050	411	.62	.322
	RL060	411	10.36	.987
	Valid N (listwise)	101		
CY	RL010	82	22.34	1.396
	RL030	82	1.98	.581
	RL040	370	6.65	.704
	RL050	370	2.46	.492
	RL060	370	11.61	.881
	Valid N (listwise)	82		
CZ	RL010	1059	4.12	.312
	RL030	179	.07	.057
	RL040	1059	.02	.019
	RL050	1059	.08	.047
	RL060	1059	4.09	.267
	Valid N (listwise)	179		
DE	RL010	546	.42	.141
	RL030	546	.04	.023
	RL040	546	18.75	.631
	RL050	546	1.99	.302
	RL060	546	2.60	.272
	Valid N (listwise)	546		
DK	RL010	0		
	RL030	0		
	RL040	744	27.33	.542
	RL050	744	.00	.000
	RL060	744	.16	.084
	Valid N (listwise)	0		
EE	RL010	536	11.93	.804
	RL030	159	.00	.000
	RL040	503	.04	.040
	RL050	503	.23	.110
	RL060	503	4.99	.444
	Valid N (listwise)	159		
ES	RL010	1399	15.33	.416
	RL030	761	.15	.043
	RL040	1445	.22	.059
	RL050	1445	.80	.125
	RL060	1444	3.54	.277
	Valid N (listwise)	761		
FI	RL010	0		
	RL030	0		
	RL040	1169	12.45	.507
	RL050	1169	.42	.115

	RL060	1169	.61	.123
	Valid N (listwise)	0		
GR	RL010	649	6.96	.506
	RL030	159	.60	.254
	RL040	649	.06	.048
	RL050	649	.88	.206
	RL060	649	13.48	.706
	Valid N (listwise)	159		
HU	RL010	388	3.47	.256
	RL030	136	22.94	.584
	RL040	803	2.20	.298
	RL050	803	.14	.054
	RL060	803	4.65	.390
	Valid N (listwise)	136		
IE	RL010	254	4.70	.565
	RL030	78	.00	.000
	RL040	497	3.54	.451
	RL050	497	3.97	.474
	RL060	497	2.36	.346
	Valid N (listwise)	78		
IS	RL010	513	20.24	.818
	RL030	0		
	RL040	515	.00	.000
	RL050	515	4.45	.518
	RL060	514	.40	.140
	Valid N (listwise)	0		
IT	RL010	2173	15.56	.358
	RL030	1094	.52	.078
	RL040	2173	.19	.042
	RL050	2173	.33	.056
	RL060	2173	6.74	.278
	Valid N (listwise)	1094		
LT	RL010	71	21.93	2.447
	RL030	40	.00	.000
	RL040	299	5.56	.802
	RL050	299	1.30	.432
	RL060	299	5.47	.810
	Valid N (listwise)	40		
LU	RL010	105	18.79	.748
	RL030	105	2.88	.755
	RL040	797	6.96	.500
	RL050	795	3.81	.366
	RL060	795	3.11	.318
	Valid N (listwise)	103		
LV	RL010	148	39.70	.796
	RL030	148	.00	.000
	RL040	509	.09	.066
	RL050	509	.97	.266
	RL060	509	3.81	.568
	Valid N (listwise)	148		
NL	RL010	207	24.29	.134
	RL030	207	1.70	.229
	RL040	1317	9.34	.288
	RL050	1519	3.03	.190
	RL060	1493	4.35	.166
	Valid N (listwise)	0		
NO	RL010	0		
	RL030	0		
	RL040	795	17.19	.609
	RL050	795	.83	.185
	RL060	795	.53	.159
	Valid N (listwise)	0		
PL	RL010	508	7.25	.656
	RL030	508	.00	.000
	RL040	1636	.84	.139
	RL050	1636	1.24	.170
	RL060	1635	7.99	.388

	Valid N (listwise)	508		
PT	RL010	269	6.68	.744
	RL030	269	2.03	.397
	RL040	269	5.24	.800
	RL050	269	4.42	.800
	RL060	269	9.45	1.069
	Valid N (listwise)	269		
RO	RL010	100	26.17	1.048
	RL030	0		
	RL040	0		
	RL050	19	35.74	3.076
	RL060	211	27.62	1.138
	Valid N (listwise)	0		
SE	RL010	55	15.00	.000
	RL030	55	1.64	1.030
	RL040	1006	18.44	.503
	RL050	1006	.74	.155
	RL060	1006	.26	.093
	Valid N (listwise)	55		
SI	RL010	906	15.31	.606
	RL030	0		
	RL040	906	.17	.058
	RL050	906	1.29	.227
	RL060	906	9.36	.498
	Valid N (listwise)	0		
SK	RL010	339	7.50	.807
	RL030	339	.00	.000
	RL040	486	.00	.000
	RL050	481	.10	.084
	RL060	481	3.34	.448
	Valid N (listwise)	323		
UK	RL010	945	5.84	.315
	RL030	958	.06	.033
	RL040	958	.66	.135
	RL050	957	2.38	.247
	RL060	953	4.43	.313
	Valid N (listwise)	940		

ANNEX 3

Participation per country

The next pages show the different information we compiled on the different types of arrangements per country and age level. The spider web graphs show in each of the radios the percentage of participation for each type of education and care. Although it portraits the same information than the graphs presented above, it permits to understand better the countries differences in terms of preferred arrangements. In general terms, ISCED 0 (RL010_c in this graph) is normally the highest. Graphs that take more area denote countries where participation is distributed between different arrangements, as is the case of FI or HU for example.
Through this graphs, it is also easier to see the distinctive case of Germany, that present an unusual high participation in RL040. The graphs also permit to differentiate the participation between younger and older cohorts

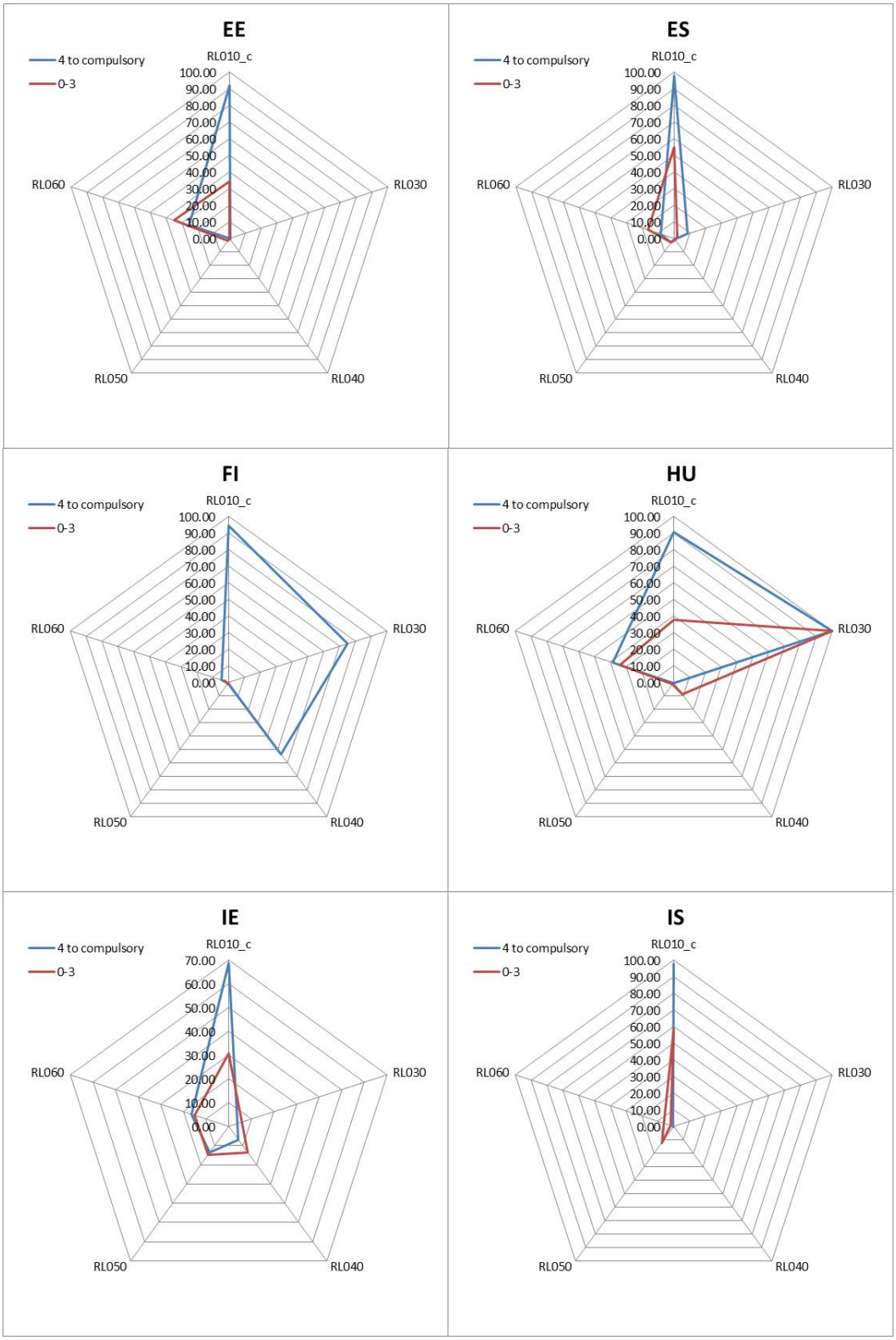
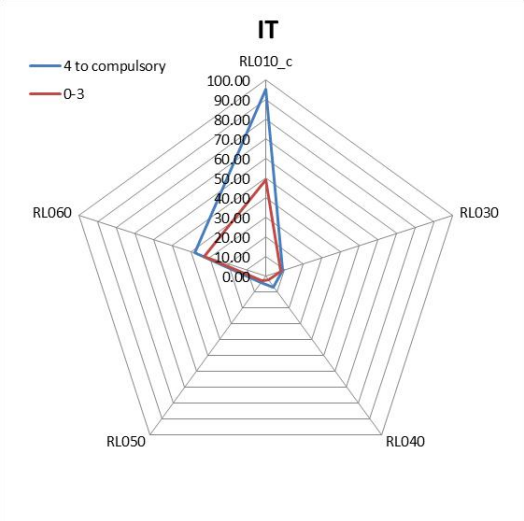


Figure 10: Radar chart on participation by type of ECEC and by country


IT
4 to compulsory
0-3
RL010_c
RL030
RL040
RL050
RL060
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80.00
70.00
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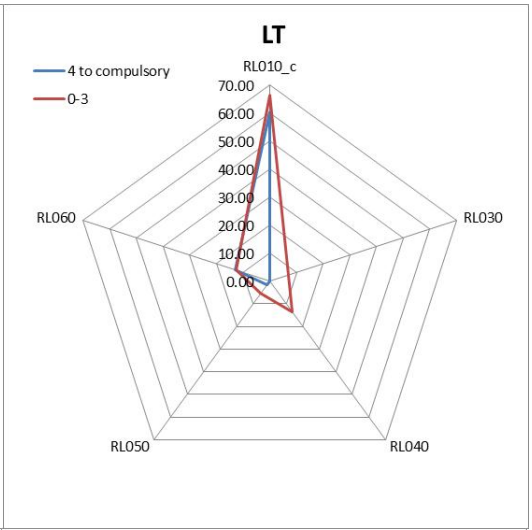
40.00
30.00
20.00
10.00
0.00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4 to compulsory
0-3
RL010_c
RL030
RL040
RL050
RL060
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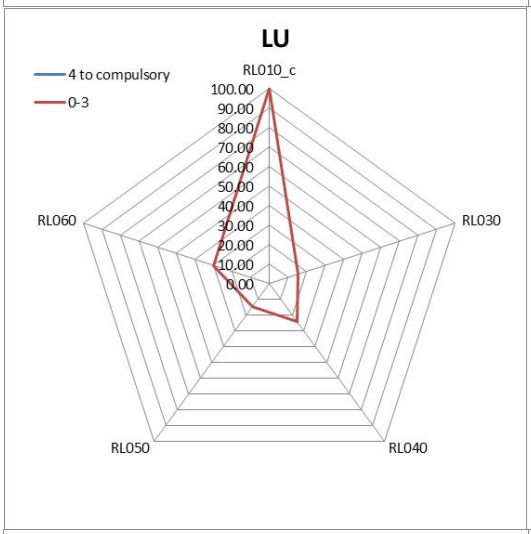
60.00
50.00
40.00
30.00
20.00
10.00
0.00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4 to compulsory
0-3
RL010_c
RL030
RL040
RL050
RL060
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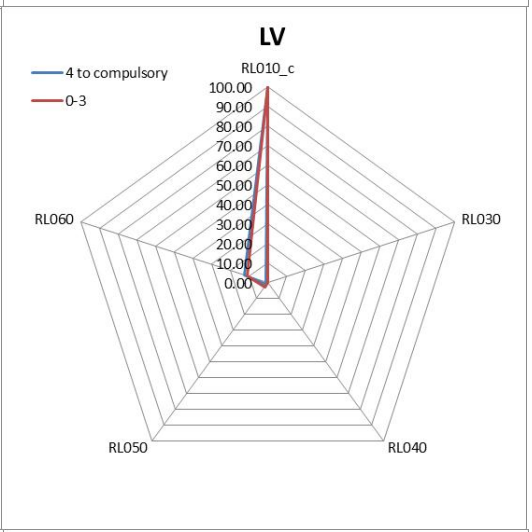
10.00
0.00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4 to compulsory
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RL010_c
RL030
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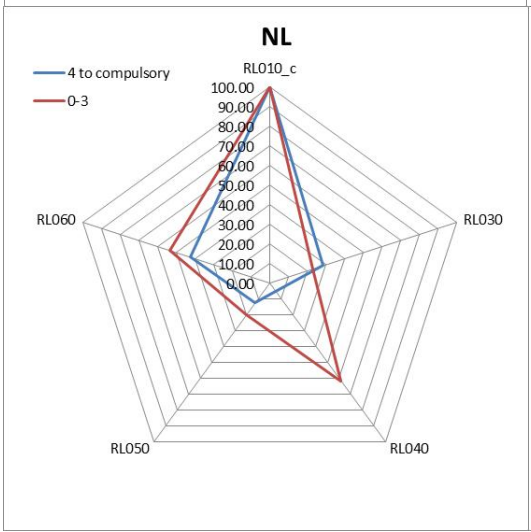
NL
4 to compulsory
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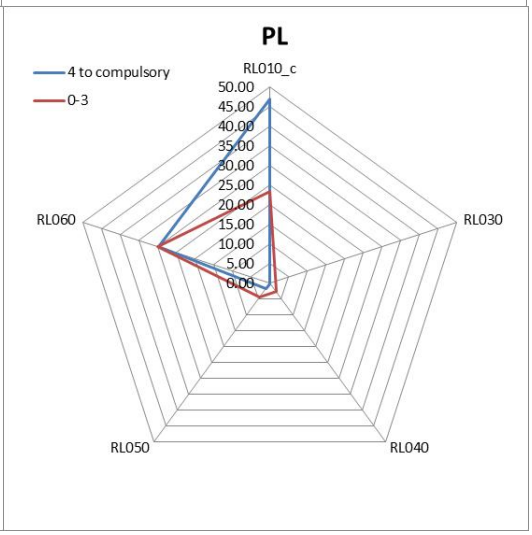
RL010_c
RL030
RL040
RL050
RL060
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00


PL
4 to compulsory
0-3
RL010_c
RL030
RL040
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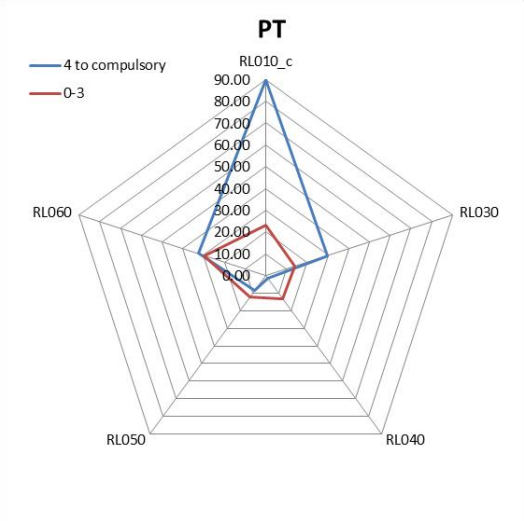
PT
4 to compulsory
0-3
RL010_c
RL030
RL040
RL050
RL060
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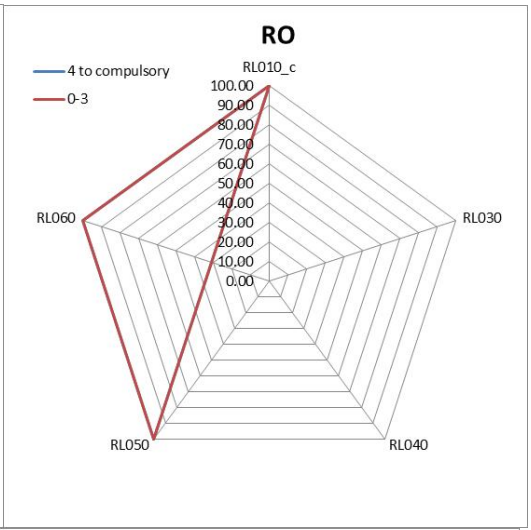
RO
4 to compulsory
0-3
RL010_c
RL030
RL040
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RL060
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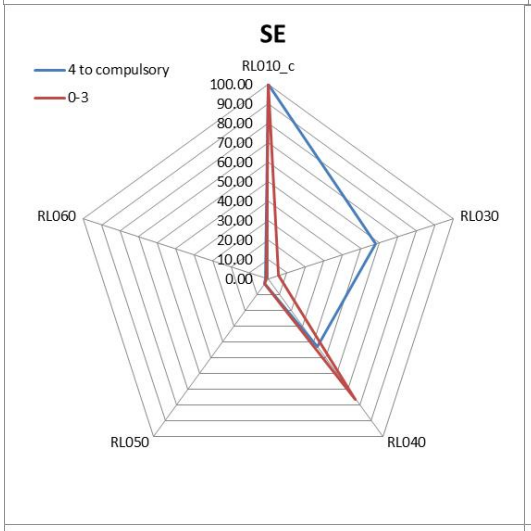
SE
4 to compulsory
0-3
RL010_c
RL030
RL040
RL050
RL060
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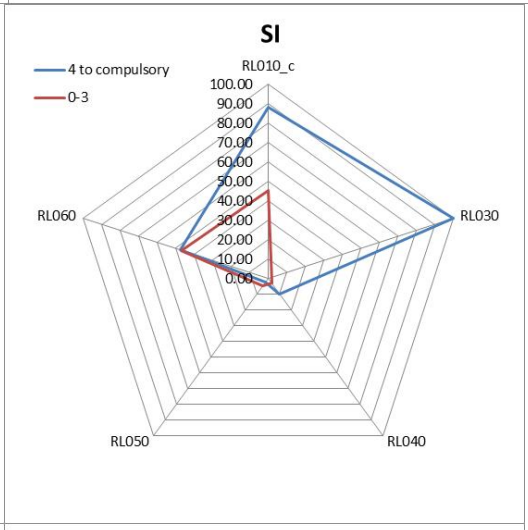
SI
4 to compulsory
0-3
RL010_c
RL030
RL040
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RL060
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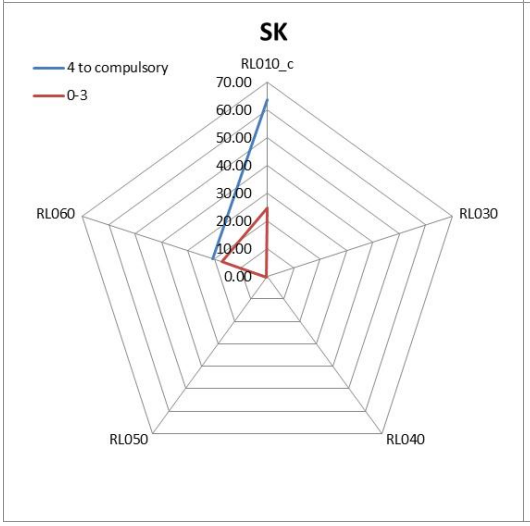
SK
4 to compulsory
0-3
RL010_c
RL030
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RL060
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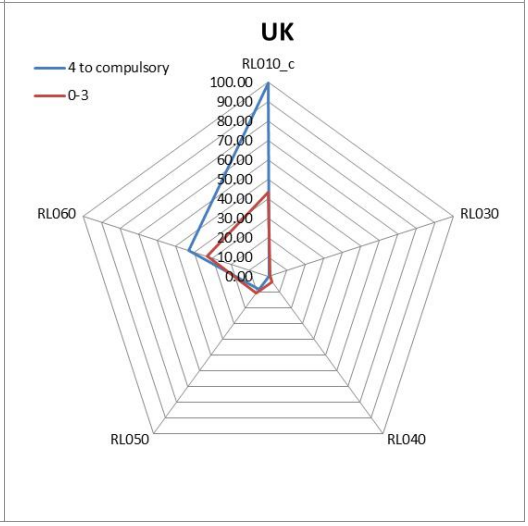
UK
4 to compulsory
0-3
RL010_c
RL030
RL040
RL050
RL060
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ANNEX 4:

Table 18: Entrance age as from Eurostat in 2008

	Entrance age to primary education
EU27	
BE	6
BG	7
CZ	6
DK	7
DE	6
EE	7
IE	4
GR	6
ES	6
FR	6
IT	6
CY	6
LV	7
LT	7
LU	6
HU	6
MT	5
NL	5
AT	6
PL	7
PT	6
RO	6
SI	6
SK	6
FI	7
SE	7
UK	5

Source: UOE

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Abstract

This report explores and presents early Childhood and Care (ECEC) participation using the 2008 EU-SILC dataset. The descriptive analysis shows that EU-SILC offers both challenges and new possibilities related to monitoring ECEC participation. Further efforts, namely those related to the homogenization of data across EU member states, are needed to render comparability and inform policy.

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